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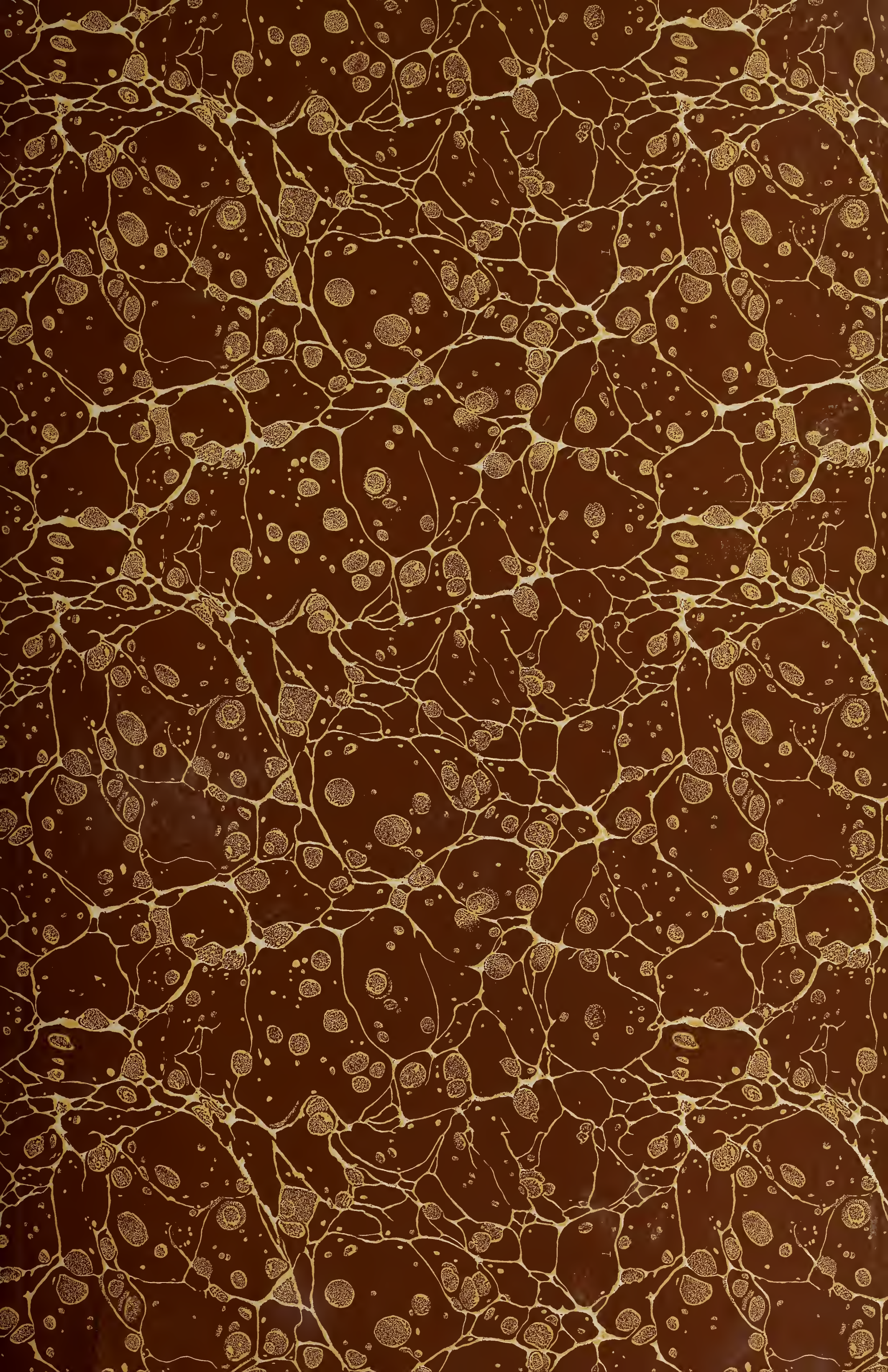
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ESTABLISHED 1877

5 cents a copy

Saturday, October 6, 1917

Western Edition



PHOTOGRAPH BY CLARENCE A. PURCHASE

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Most Miles  
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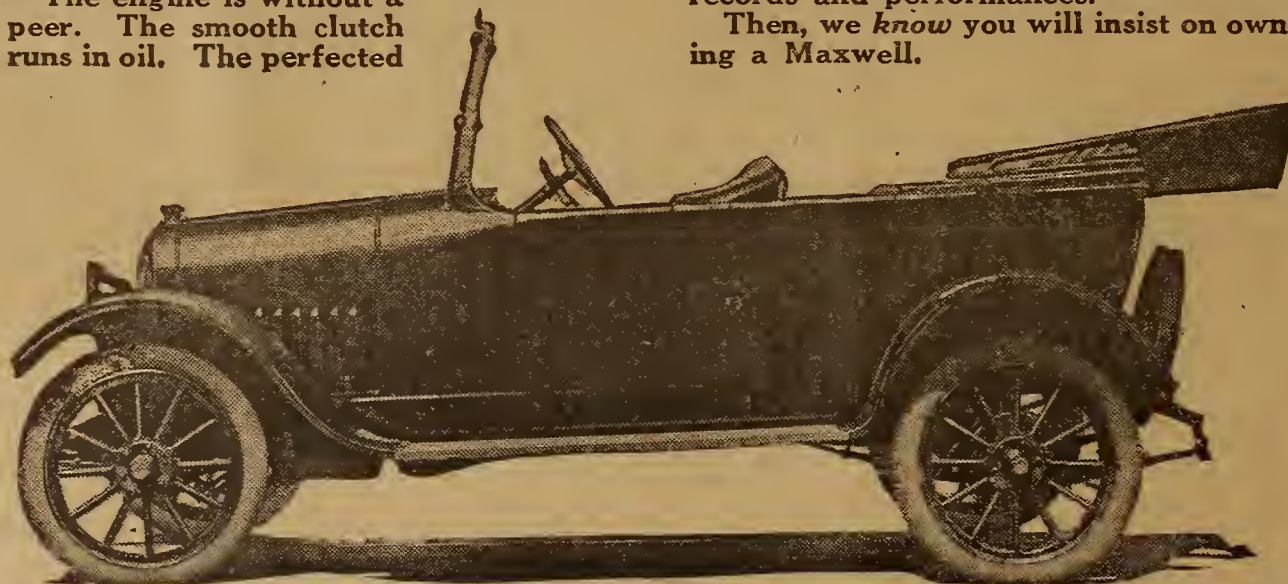
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# FARM and FIRE SIDE

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No. 1

## Sea Power and the Submarine

### How Superior Naval Strength Sounds the Knell on German Victory

By FRANK H. SIMONDS

AN AMERICAN newspaper editor prophesied this Great War. His articles in July, 1914, amazed people so that they asked, "What army officer is writing those articles?" He is a newspaper man who has studied military strategy for eighteen years, since he served in the Spanish-American War. It has been his recreation and hobby outside of his work.

He was at Verdun—many feet underground you may be certain—when that great battle was being fought. Last spring he crossed the submarine-infested Atlantic to pay another visit to the western front. By strange coincidence the Germans began their "strategic" 25-mile retreat from the Somme district while he was visiting it.

This American newspaper editor, Mr. Frank H. Simonds, is the author of this article. That Mr. Simonds is one of the best military writers the Great War has produced I leave for you to decide—after you have read this article.

THE EDITOR.

LONG before the present conflict an American admiral had laid down the value of sea power in the wars of the past and estimated its prospective influence upon the next war. For Britain and for Germany Admiral Mahan's various volumes became the law and the gospel in naval history, and to the first book is ascribed the present German Emperor's change of policy, which brought his country and Great Britain to war and now has involved the United States.

Sea power in all the great conflicts of the past was not immediately decisive. Admiral Mahan has pointed out at great length and with a wealth of detail how the French were able, both under Louis XIV and under Napoleon, to win not only a great many campaigns but Continental supremacy, only to lose it in the end because they were unable to deal effectively with sea power.

In our own War of Independence the decisive victory of Yorktown came when Britain had temporarily lost control of the water on American coasts. Yet in 1871 all the French supremacy over the Germans at sea did not avail to save the French, because the decision could be had on land, and was had. In our own Civil War, on the other hand, the North used the blockade to its uttermost. The possession of sea power contributed much to the destruction of the South.

What so far has been the new lesson of sea power in the greatest struggle of history? How far has that policy known as Navalism justified itself in conflict with the rival doctrine of Militarism?

Even at the present moment it is possible to say unqualifiedly that naval power has achieved all that was expected it could achieve. So far it has supplied the single decisive element in the whole struggle. British sea power—and it is not necessary now to discuss the relatively minor part played by the Russian, the Italian, or even the French, navies—won the war, as far as the water was concerned, in the first days of the conflict, and without battle, and now to these fleets have been added that of our own country.

With the declaration of war against Great Britain three years ago, Germany became an isolated nation so far as the sea was concerned, save only for the Baltic. First of all her merchant marine was swept from the seas or interned in neutral ports. Almost with the first note of the call to arms, Hamburg and Bremen, the great German seaport cities, were paralyzed; they have been paralyzed ever since.

Next, within a time that was brief, however long it

seemed at the moment, there were swept from the sea the few German warships which were in foreign stations when the struggle began. The Emden and the Königsberg won momentary success and lasting glory, but only for the first few months. Admiral von Spee's squadron, after one success, the greatest, by the way, in German naval history, was destroyed by Sturdee's British squadron. All oceans were open to the Allies' commerce—closed to the German flag.

Never had a victory been so complete. Even in the Napoleonic and earlier conflicts the merchant vessels and the warships of Britain's enemies kept the sea, and some sea-borne trade persisted. Napoleon took an army to Egypt and escaped home despite British command of the water. But under the conditions of

Half the advantage of superior German preparedness was swept away when the British fleet made it possible to transform America into the factory and granary of the Allies. It will be the verdict of history that the defeat of Germany was made in the United States, at least the Germans already attribute to American help the protraction of the war. This is the contribution of sea power.

Against sea power Germany had devised the submarine, or rather she had relied upon the submarine. In her plans it played the part of the old privateer. It was a commerce destroyer, and what it undertook to do was to prey upon commerce, upon the commerce on which depended the very life of Great Britain, since without imports she would starve to death.

Yet despite all the sensational successes of the submarine, it has failed in its purpose. It has not isolated Britain, it has not produced starvation, it has not even interrupted the flow of munitions or of supplies for the allied armies. It has sunk many merchantmen, but it will not be the deciding factor in the war.

As to the war fleets, across the narrow sea between the Firth of Forth and the Kiel Canal, the great battle fleets watch each other, but the German is too hopelessly outnumbered to come out: it is at bay, besieged; it can come out as could the Spanish fleet at Santiago, but in all probability only to face the same fate.

Never in the whole history of war has there been a more complete decision for superior naval power. Not more complete, in fact, was the triumph of the North over the South, which was not a sea power. So far as it is now possible to see there is no chance to challenge sea power on water: it can only be challenged upon land; that is, only on land can Germany win, and there she must win such success as will bring the



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Even at the present moment it is possible to say unqualifiedly that naval power has achieved all that was expected it could achieve. So far it has supplied the single decisive element in the whole struggle

steam navigation sea power became for the time being absolute in its command.

The first result of the victory of sea power in the present war, of the demonstration that British sea power was supreme, was the transportation to France of the expeditionary army which contributed materially to the defeat of the first German invasion, aiding materially in blocking the first great German bid for a decision on land, and was the decisive factor, perhaps, in halting the second German advance—that directed at the English Channel.

#### A Decision Now Seems Certain

FROM that day to this, thanks to British sea power, hundreds and thousands of troops have been carried to France from Great Britain and from the colonies; the British reinforcements for France, amounting to two or more millions now, have broken the deadlock in the west. Now that the United States has entered the conflict a decision on the western front seems certain.

In the same fashion sea power has made it possible to transport armies to Egypt and roll back the Turks in defeat, to send armies to Gallipoli, which, to be sure, failed, but no more signally than several expeditions directed against Napoleon. But beyond all else, sea power, before America entered the war, enabled unprepared Britain, partially unready France, to turn to their own uses the whole industrial machinery of neutral nations, of America in particular, to equip armies, to munition and supply them as neither France nor Great Britain could have done.

sea power of the Allies to its knees.

This was the old Napoleonic problem, but with a difference. Napoleon was able to get a decision on land as absolute at the moment as Britain's on sea. But Germany has extracted no surrender from her enemies. Napoleon made Austria, Prussia, and Russia give over the war and sue for peace. He made Austria surrender a second time at Wagram. He even swept a British expeditionary army out of Spain.

Beside the Napoleonic success, Germany's victories to the present moment are all victories in territory, not in nations. But when Napoleon had conquered the Continent there was left Britain, safe behind her sea power and still able and willing to fight on. He had gone, in his early days, to Egypt to strike at Britain, and failed.

But in his whole career he failed to set foot on British soil or to conquer a British colony or province which would so cripple Britain as to compel or persuade her to consider peace. So he was forced to fight on, for British money and British diplomacy raised new wars in Spain, in Russia, until at last France was worn out, while Great Britain, uninvaded, with the whole carrying trade of the world in her hands, remained unwasted and uncrippled.

Thus sea power wore out land power; it made many victories on land but of passing value; it raised new armies, new insurrections, new wars, and it was always immune itself from injury. In the end it prevailed because France could not forever fight the world. It tempted Napoleon to annex province after province, to close the ports to British commerce; it led him to Russia and to Spain, [CONTINUED ON PAGE 21]



# The Call of Baby Beef

## City Consumers Want the Small, High-Quality Cuts of Meat

By W. L. NELSON

**T**HIS is the day of baby beef. A thirteen-months-old steer was grand champion of the 1916 International Live Stock Show at Chicago. The kind of cattle that our grandfathers drove from Virginia and sold on foot in New York City three quarters of a century ago, cattle weighing from 1,500 to 1,800 pounds and from three to five years old, do not now meet the market demands. The consumer is calling for the small, high-quality cuts of meat. At present prices asked for steak the average man cannot afford a porterhouse from a large animal. Owing to advances in land values, to greatly increased cost of feed, and to higher wages paid farm help, few feeders can afford to hold their cattle to advanced ages. The use of better bulls has hastened early maturity, so that we find calves of from ten to twenty months of age carrying as much high-quality meat as was formerly carried by the aged steer.

Advocates of baby beefs also claim that it is possible to secure better gains on young cattle. Another advantage is that the herd on hand may be smaller than when older cattle are carried two or three years and then finished. This is an item where pastures are limited. The demand for baby beef is also more stable than for aged animals. The aged steer may occasionally come into his own, as, for instance, at the present time when war has made abnormal conditions, but always the market is keen for the well-fattened calf.

From the foregoing it should not be understood that every man who feeds cattle should go in for baby beefs. The poor-quality steer is not adapted to the making of baby beef, but should be fed for a longer period. The calf or yearling also requires more grain and concentrates than does the aged animal. Furthermore, the making of baby beef is a specialized business, a business in which not every man can hope to succeed.

Here and there throughout the corn belt may be found farmers, generally men who feed only one or two carloads of calves at a time, who have brought the business to a high state of perfection. Such a man is Turner Gillaspie of Boone County, Missouri. Twenty-five years ago Mr. Gillaspie, then a young man, bought of his sister 80 acres of land, her half of the old home place, paying \$22.50 an acre. The next summer was one of poor crops, owing to a disastrous drought. Mr. Gillaspie was discouraged, and offered to take \$27.50 an acre for the 80 acres which he had bought, and for a like tract which he had previously acquired. But there were no buyers. The fact that there were none Mr. Gillaspie now looks upon as a bit of good fortune. "Why," said he in speaking of the price he put upon his land a quarter of a century ago, "if that man had taken me up I would have been ruined." Now, after continuous cattle-feeding—and this means soil-feeding—the place is worth \$150 an acre and Mr. Gillaspie has money in the bank.

Mr. Gillaspie never feeds more than one carload of cattle at a time, but he has for many years been a consistent and successful feeder and maker of baby beefs of the highest quality. As far back as December, 1909, a carload of cattle which had been fed by Mr. Gillaspie sold on the St. Louis market at \$10.50 a hundredweight. This, at that time, was a very unusual price for steers, and especially for cattle weighing around 1,250 pounds. On September 24, 1912, 24 head of 1,187-pound yearlings from the Gillaspie farm sold at the St. Louis Stockyards at \$10.65. These cattle had been previously contracted to Boone County buyers at \$9.50 a hundredweight. In 1915 the Gillaspie cattle were contracted at \$10.50 a hundred, home weights, and sold at \$10.85 in St. Louis. Last year 25 head, averaging 1,280 pounds, were contracted to go at \$10. These cattle sold on the St. Louis market at \$10.75, with one out, making the average price for the load \$10.68 a hundredweight.

For calves contracted in April and marketed in July of this year (1917) Mr. Gillaspie received 14 cents a pound, doubtless the highest farm price ever paid for a carload of Missouri market cattle. These beefs, marketed rather too early to be in the best of bloom, averaged 1,142 pounds and brought the feeder \$3,997.28.

The foregoing prices largely speak for themselves. They tell of a master feeder and of high quality with which to begin. They do not, however, disclose the real secret of making baby beef as Mr. Gillaspie has

developed it. In order fully to understand it will be necessary to know something of the man and of his methods.

First of all, Mr. Gillaspie insists upon quality. Late in the summer or early fall he buys a carload of calves, the very best that he can get by scouring a large territory. Usually 25 head of calves are purchased. The average cost a head has increased rapidly during the last few years. In 1911 this cost was \$26 a head. By 1912 it had gone to \$36, while the carload just marketed represented an initial cost of \$60 a head. The cost of feed has also advanced in almost equal proportion. Even as recently as five years ago corn could be had at 75 to 80 cents a bushel, and cottonseed meal at \$33 a ton. The carload of calves that were just finished had eaten cottonseed feed costing \$46 a ton, and corn worth twice what it was five years ago. So let no one think that this Missourian is getting fabulously rich.

On the other hand, Mr. Gillaspie is not failing. Rather is he succeeding splendidly. Each year he is adding a little to his bank account and more to his soil account. While the exclusive grain farm, without proper rotations, is growing poorer and less productive, his acres are each year increasing their productive power and growing in value.

In a conversation a few weeks ago with Mr. Gillaspie he stated that the first cost of the calves fed this year was \$1,500, and that he figured that this, with the feed bill, pasture, interest and all, amounted to \$3,000. Mr. Gillaspie figures that the principal profit comes through the hogs that run after these cattle. A few months ago he sold 24 hogs, the pigs from three sows, at 14½ cents a pound, or a total of

pleasing lines, neatly painted and set in a nice grove, is a real home. There are no littered lots, no ramshackle fences, no sagging gates, on the Gillaspie farm. All outbuildings are painted and kept in the best of repair. About such a farm there is no need of a clean-up day. In the fields good crops grow out of the ground because it is good ground. Altogether, the Gillaspie farm home is such as makes for the stability of the nation.

## Our Food Problem

By B. F. W. THORPE

**S**INCE Herbert Hoover was given governmental authority to administer and safeguard our nation's food supply, every consumer of foodstuffs at home and abroad has become vitally interested in his efforts. Criticism of his work was to be expected, for whenever the business interest of individuals must suffer in consequence of interference with established custom the greatest good of the greatest number is at least temporarily forgotten. But now that Mr. Hoover's plan of action is becoming better understood, as evidenced by the establishing of what under existing circumstances will be considered a fair price for the wheat crop of this year and next, there is a feeling of security developing in the public mind. This feeling is based on the belief that whatever is done for present cheapening and conservation of food and the encouragement of an increased future supply will be accomplished not by a one-man dictum, but by calling to his help a just and fair representation of all the interests affected.

At the recent Chicago conference, when Mr. Hoover discussed the present food situation and future outlook before the editors and publishers of more than one hundred farm papers, the fact became clear that the Food Administration is entering conscientiously as well as zealously into its work. At this conference Mr. Hoover showed that this country could not fulfill its claim of being a Christian nation unless it exerts every effort to relieve want and hunger among those who are taking the brunt of the fight for world-wide freedom. To furnish even the scantiest possible sustenance to our allies during the coming year, we must export four times as many bushels of wheat and eight times the normal quantity of other cereals. The allied countries have already reduced their consumption of foodstuffs by every device of which loyalty is capable. In order to prevent downright famine among allied and neutral countries,

America must restrict the demands of speculators, and as citizens we must reduce our consumption of those foodstuffs which are best adapted to carrying abroad, such as cured meats, grain, and dairy products, and for ourselves substitute those foods which we have in abundance but are more perishable.

But even more vital than conservation and economy in food and clothing, this conference showed the absolute necessity of next year's increase of production of all staples, and particularly all kinds of animal food. The experience of all the warring nations is a unit in showing that animal food, and fats particularly, cannot long be omitted from the diet of soldiers and civilians whose work requires continued, energetic action of mind and body, without great loss of efficiency. The European supply of food animals has dwindled very low, and on our ability to furnish animal food and fats in addition to staple grains will depend the efficiency of our own and allied troops, and eventually the cause which we have espoused.

In closing his address before the conference, Mr. Hoover said that he had watched the suffering of ten million people while in Europe under the wrongs of "dictatorship." He resents the title "Dictator," and asserts that his aim is to make his work, and that of those engaged with him, administrative. He said that everything he did would be open to the inspection of everyone. That it was his purpose to keep wheat up to a fair price so farmers would raise it. To be successful in his job of food administrator Mr. Hoover said: "There must be combined effort. For as surely as we were fighting for freedom in 1776, we are fighting for our national existence and our national fate this day and month, 1917."

EW



These baby beefs were sold last July for 14 cents a pound on the Missouri farm where they were fed. Although marketed too early to be well finished, the 25 head averaged 1,142 pounds and sold for \$3,997.28

\$825. At the time the steers were delivered he still had 40 head of hogs averaging about 150 pounds.

These calves were placed on feed December 1st, and were given silage at first only once a day, and this in the morning, with corn at night, until May 1st. They were also given some sheaf oats and ear corn. Hay was also provided, but only a limited quantity was eaten. Toward the end of the finishing period cottonseed meal and molasses feed, the former at the rate of 100 pounds a day and the latter at the rate of 50 pounds a day, for the entire bunch of steers, was fed.

### Usually Markets Late in Summer

**H**ERETOFORE Mr. Gillaspie has refused to contract his calves for early delivery, preferring to feed them on until late summer or early fall. This year, though, when he had a chance to make the record sale that he did, he thought it advisable to do so. This early delivery meant that the calves did not have the perfect finish which has characterized those of longer feed. This fact, and the further fact that the market failed to show the strength that was indicated a few months previous, caused the cattle to lose money for the shippers. Had the market not shown unexpected weakness these calves should have sold \$1 a hundred higher.

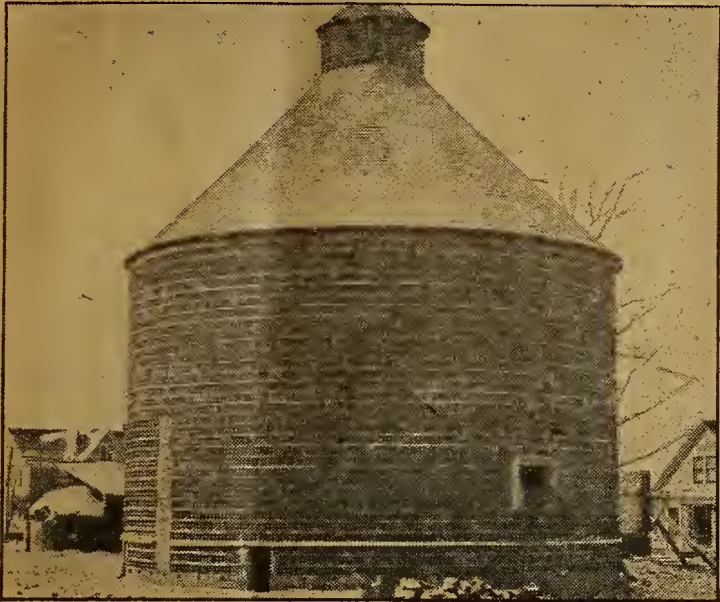
To speak of the work of this Missouri feeder and not refer to his farm would be like describing Hamlet and leaving out the melancholy Dane. Mr. and Mrs. Gillaspie—yes, they are full partners in farming—have a home that is a credit to the neighborhood and to the county. It is not a pretentious place. There is no great showy house, but the cottage, designed along



# Sensible Barn Equipment

## Methods of Construction and Tested Devices That Make Work Easier

By JOHN COLEMAN



Here is a 1,500-bushel hollow-tile corncrib. The core which shows at the top of the crib affords good ventilation

**H**OW many head of live stock shall I carry through the winter, and what shall I feed them?" This question, voiced in various ways, is receiving a good deal of thought, and must be answered before cold weather. A good farmer friend of mine for whose judgment I have had great respect has made a good corn crop and will sell it outright this year. Formerly he has fed steers and hogs and maintained a small dairy, but he has already closed out his live stock except a few cows for family use.

"What is there to gain," he challenged, "by feeding, when I can get as much for my crops just as they are in the form of grain as I can in the form of milk, beef, and pork. I figure that the help I should have to hire would cost as much as the manure is worth. By selling the grain I play safe, and will get a good rest this winter."

There is considerable truth in those remarks, but with the present favorable outlook for good prices on all animal products such an attitude is rather a weak way to play the game. Year in and year out, cows and hogs are about as good a money-making combination as one can find. And with milk selling for around 12 cents a quart in some cities, and hogs going to \$20 a hundred, those who have the courage to feed high-priced grain will stand very little chance of losing.

### The Time to Cull Out the Slackers

**W**HEN personal gain, the nation's welfare, and the good of the farm are all considered, the wisest course, I believe, is to closely cull all the live stock on the farm, not forgetting the poultry, and keep only the best. An abundance of evidence proves that a well-picked dairy herd, comfortably housed and full-fed, is always more profitable than large herds from which the culls have not been separated. I mention dairy herds because their product is easily measured and tested, and accurate results can be obtained. But the same principle applies to other live stock.

Another good reason for culling the herd is to prevent overcrowding. Advancing dairy prices have resulted during the spring and summer in larger herds, and I have observed that only in rare cases has corresponding barn room been provided. Overcrowding and underfeeding, which usually goes with it, invite many kinds of animal ailments. And sickness among live stock is equivalent to a serious waste. A sick cow requires extra care, her product is unsalable, and she is often a menace to the rest of the herd.

The greater the value of live stock and their products, the greater care we should take to keep the farm animals not only healthy but also productive to the limit of their capacity. A ventilating system is less expensive than the loss of one good cow. And, once installed, such a system goes on working for you year after year without cost and with little attention. There is a difference, of course, between a comfortable barn with practical conveniences and a luxurious barn maintained for show purposes.

Breeders of finely bred stock who advertise widely have found that the highest class of barn equipment, complete to the last detail, makes a favorable impression on

visitors who come to buy. The investment in fine barns pays them well. Dairies producing certified milk, or specially inspected milk, likewise must have equipment of the finest sort to win and maintain the confidence of their customers. But for the average farm, here are a few moderate-priced improvements which combine comfort for the stock with convenience for the men, and pay dividends on the investment.

An indoor system of watering probably deserves first mention. The water will at least be warmer than in an outdoor tank, and especially if a heater is provided you will find the stock will drink more water, an abundance of which is essential for the economical production of meat and milk.

Concrete floors and gutters may be mentioned second. These will help to save all the manure, which is doubly valuable, considering its ability to increase next year's crop yields. They also make the barn rat-proof and more easily cleaned.

Next is a system of overhead carriers for feed, litter, or both. Persons who have never used these carriers often fail to appreciate that they will hold as much as 15 bushels, and that you can feed a whole row of cows as quickly and with less work than you can three or four when the feed must be carried by hand.

Ventilators have already been mentioned, and they may be had in a variety of styles, including those which in midwinter may be regulated to retain as much warm air in the barn as desired. A dairyman I was talking to a short time ago said that he would install ventilators, but he was afraid his cows would be in a draft. That is just what a ventilating system prevents, as the air in the barn is thoroughly purified without opening doors or windows. Ventilators also cool the barn in summer. There is a form of ventilator which maintains a circulation of cool air just under the roof.

Finally comes the matter of comfortable stanchions or tie-ups. Profitable dairying in the winter time depends largely on imitating pasture conditions. This means succulent feed, and silage is a fair substitute for grass. It also means freedom, which is necessarily limited when animals must be kept indoors. But modern swinging stanchions give more freedom than the old-fashioned rigid plank stanchions. And here is another matter which is seldom given much thought: In winter the hours of sunlight are few. So do not build into your barn unnecessary partitions or cumbersome stanchion frames, or anything that will make the barn dark and gloomy. Paint and whitewash do wonders in brightening a stable, but they do not supply the warmth and cheer of direct sunlight.

Many a dark and gloomy stable could be made cheerful and far more healthful to the cows and their caretakers by the expenditure of a very few dollars invested in a number of generous-sized windows suitably placed. Germs causing practically all of the dangerous diseases thrive in the dark, and direct sunlight is an effective germicide. Not only is sunlight health insurance for stock, but the cheer, comfort, and contentment that sunlight affords counts profitably in milk and meat production when the animals must spend the major part of every day indoors.

The same window opening properly screened in warm weather affords free circulation of air, while barring out flies. The objection sometimes raised against large windows as a means of losing much warmth by radiation at night can be readily met by using inside hinged wooden shutters, or spring-roller building-paper shades.

## Tile Corncribs

By M. GLEN KIRKPATRICK

**T**HERE are several reasons why the farmers in Dallas County, Iowa, are building new types of cribs in which to store their corn. One reason is that they want a building which will last for many years. Another reason is that they refuse to be pestered with rats and mice from season to season. Then, too, the new hollow-block cribs which they are building are not any more expensive than the wooden cribs which their neighbors are erecting.

Five years ago one of these new cribs was built on



This corncrib is a means of storing the surplus temporarily, but is wasteful as a permanent structure, being a veritable rat heaven

a farm near Adel, and now, after five years of trial, the farmers who live near have decided that the blocks are good material for such use. They are cut

at an angle, so when placed in a wall the hollow channel will not permit the rain to run into the crib, for the tunnel in the block slants down on the outside.

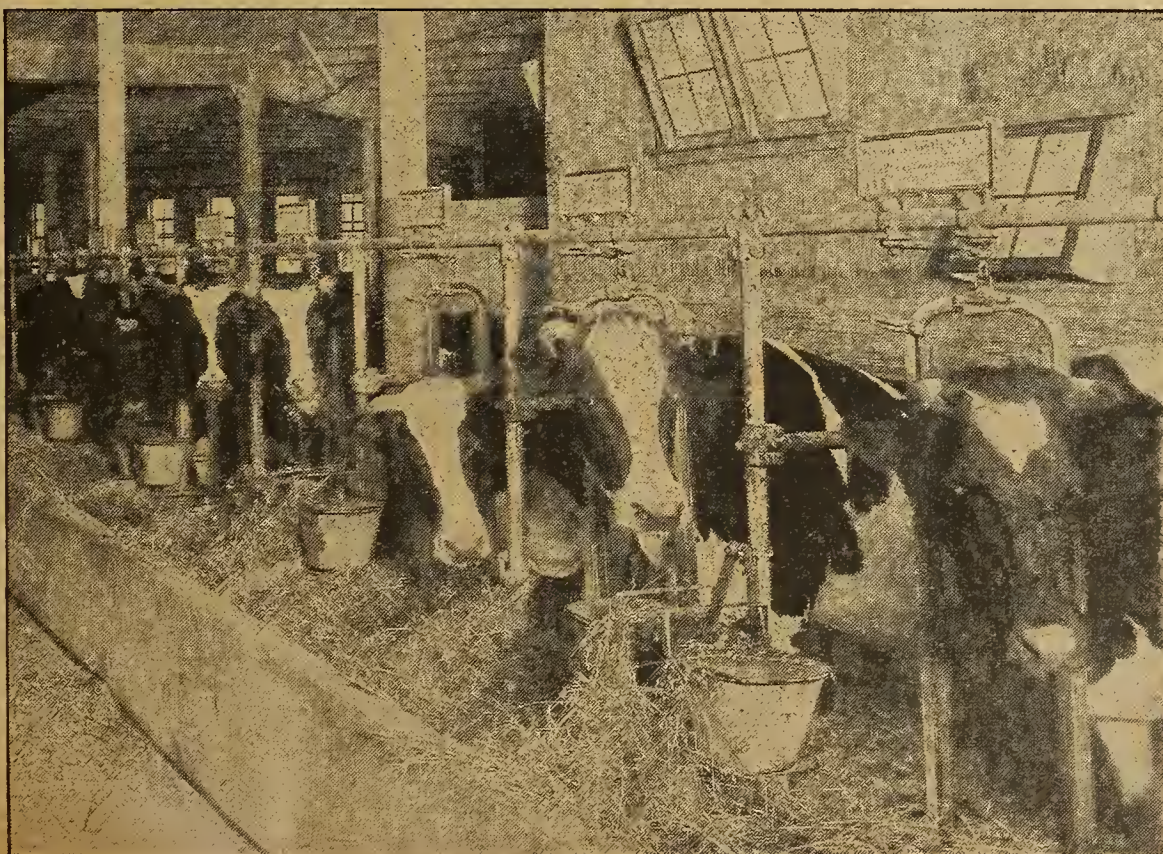
To keep out the rats and mice, a piece of fine mesh screen is stretched around the inside of the wall to a height of several feet. At that height a piece of tin is laid in between the blocks, protruding outside the wall. This prevents the rodents from climbing above the screen.

In the center of the circular block cribs is a core some five feet in diameter. This is built of hollow blocks, and acts as a ventilating tube for the crib. It extends the full height of the crib.

In many of the cribs no lumber is used at all. Even the roofs are made of tile, which overlap in such a way that there is no possibility for water to leak through. The roofs will last as long as the walls of the crib.

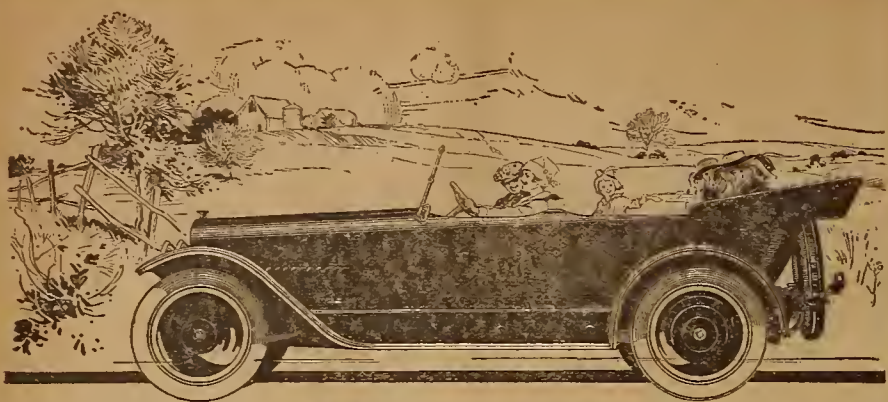
Another feature of the crib is the floor. Tiles are imbedded in the cement and connect with the core in the center, so that the ventilation is thorough.

Corn keeps well in this new type of crib construction. Vermin cannot enter, and the buildings are almost certain to last as long as the owner will want a crib.



Stanchions and stall partitions made of steel do not shut out the light, and consequently help make the barn bright and cheerful as well as sanitary





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The Mitchell has 31 costly features which nearly all cars omit. One of them is Bate shock-absorbing springs which never yet have broken. In beauty and luxury, it excels the average car in this class by at least 25 per cent.

It combines all the best attractions known to motor car designers. Before designing these new Mitchells our experts examined 257 show models, so that nothing would be missing.

### How We Afford It

Yet the Mitchell price, on either size, is below any other car in its class. The reason is, we save millions of dollars through factory efficiency methods. And that saving pays for these vast extra values.

This 45-acre plant was built and equipped by John W. Bate, the famous efficiency expert. Every detail has been designed to produce a fine Six economically. Here we build the whole car—chassis and body—for half the old-time labor cost.

That is how we offer this 100 per cent overstrength. That is how we include so many attractions which you do not see elsewhere.

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See our latest models which all Mitchell dealers now show. See the over-size parts, the added beauties, the 31 extra features. See the heat-fixed finish, whose lustre defies the weather. When you buy a fine car, you are bound to choose the Mitchell if you know it.

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MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.

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Club Roadster, \$1560  
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Coupe, \$2135. Club Sedan, \$2185  
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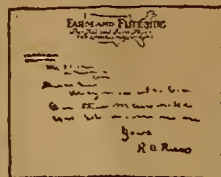
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Club Roadster, \$1280  
Sedan, \$1950 Coupe, \$1850

All Prices f. o. b. Racine.

## The Editor's Letter

Royal Relationship and the War—By Request



"I AM a reader of your chats on various subjects," writes a farm woman in New York State whose son has been called in the first draft, "and what I now ask would be appreciated, I think, by other subscribers as well as myself. Please explain the true relationship of the present sovereigns of England and Germany and the ex-Czar of Russia. Also is there any English blood in the Kaiser or his family and is there any German blood in the King of England or members of his family. And if it is all a family quarrel, please explain why the flower of American homes should be sacrificed to settle a quarrel which we had no part in starting."

The questions asked are fair ones. Parents whose sons have been called to the colors have a right to demand such information. Here are the answers: The Kaiser, William II of Germany, is a first cousin of the King of England. Frederick III, former Emperor of Germany, married Victoria, the eldest daughter of Queen Victoria of England, and the present Kaiser is the son of that union. This makes the Kaiser a grandson of the former Queen of England.

King George V of England is of German blood to the following extent: Queen Victoria married her cousin, Prince Albert, who was the son of a German duke. Furthermore, Queen Victoria's mother was a German princess. The Queen spoke English with a decided German accent during her entire life. Queen Victoria's first son, Edward, became Edward VII of England, and the present King George V is his son. Thus the King of England and the Emperor of Germany are not only cousins but are both grandsons of former Queen Victoria.

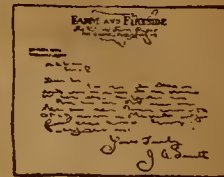
The royal families of England and Russia are related in a similar manner. Nicholas II, the ex-Czar, is a cousin of King George of England, their mothers being sisters, both daughters of old King Christian of Denmark. The ex-Czar also married a German princess, who happens to be a cousin of King George. German blood is well represented in practically all the royal families of Europe, but is especially strong in the Romanoff line. The Russian imperial family has married so extensively into German royal houses that their blood is practically as much German as the Kaiser's.

Princess Sophie of Prussia, sister of the Kaiser, is the wife of ex-King Constantine of Greece. King Albert of heroic Belgium likewise has a German wife, Duchess Elizabeth of Bavaria. These are some of the royal personages whom the war has brought into prominence, but there is a similar intermingling of blood in the royal families of Spain, Norway, Sweden, Holland, and other countries that are still remaining neutral.

THE underlying causes of the war, so obscure at first, have become clearer each succeeding month. Political intrigue in Germany, by which the princely military families hoped to re-establish their fast-waning power by bringing about a conflict, and a now well-known plan of world conquest, politically and commercially, which the ruling classes in Germany have been fostering, are to-day only too apparent.

The foundations of Germany's dream for a greater empire were laid back in 1883, when Bismarck dominated the politics and diplomacy of central Europe, and established the system of alliances. Trouble was brewing between Russia and Austria, and Russian troops were threatening the Austrian frontier. The Czar assured Bismarck that peace would be maintained if Germany would support Russia. But Bismarck, forced to declare in favor of either Russia or Austria, formed an alliance with the latter, and later Italy was induced to join. This was the Triple Alliance, from which Italy diplomatically managed to excuse herself.

After her alliance with Austria, Germany cultivated the friendship of Turkey, and soon dreamed of an empire extending from the North Sea to Asia Minor. But whatever may have been the initial causes, the war is now clearly the resistance of democracy to despot-



ism. The relationship of the royal families is an important factor in so far as it complicates diplomacy and influences leadership, but this relationship did not bring on the war. If anything, it has postponed hostilities in some cases. Greece, for instance, would no doubt have joined the Allies much earlier save for the influence of Constantine's German wife.

IN ANCIENT times, when nations were small, the marriage of a princess of one royal house to the princess of a neighboring principality was a popular means of preserving peace. But such a flimsy foundation is of little import when a monarch becomes mad for conquest and big nations fight for their lives. When Napoleon threatened to conquer Europe, his Austrian father-in-law was one of the first to help crush him. And in the present war we must remember that royalty is a less important factor than in the past. The printing press and modern education have raised the average intelligence of the human race so that most any civilized nation has thousands of men qualified to direct affairs of state.

The people of one nation after another have come to the conclusion that royal families should either be dispensed with entirely or at least restricted in their authority. Of the fifty-seven nations on the globe only six are now absolute monarchies, and these are largely in the Dark Continent. They are: Abyssinia, Afghanistan, Morocco, Siam, Oman, and Monaco. Twenty-eight of the nations are republics, and the remaining twenty-three are limited monarchies, where the people hold the reins of government. The great majority of the world's population is self-ruled. The principal republics are the United States, France, Portugal, China, Russia, Mexico, Brazil, Argentina, Peru, and Venezuela.

Thus, except for Canada, practically all the Western Hemisphere is made up of republics. But the Government of Great Britain and her colonies is in most respects similar, and in some ways even more liberal, than our own; and the royal family is maintained largely as a matter of sentiment. But the English people are becoming less liberal in the annuities paid the royal family, and the dowries to princesses are limited by Parliamentary action. The King and Queen of England have been receiving about \$2,350,000 annually, and the total expense of maintaining the royal household exceeds three million dollars. This figure will henceforth be reduced, and some of the estates and hunting preserves heretofore used for royal pleasure are being converted into farm land. The ruler of Austria receives from his people over \$4,500,000 annually; the Sultan's income is \$5,000,000; the Kaiser receives nearly \$4,000,000, plus large incomes from the imperial estates; even the King of Serbia receives \$240,000. Prior to his abdication, the Czar was the wealthiest man in the world. His private estates exceed 650,000 acres, in addition to vast forests and gold mines.

Thus, out of the carnage of war, the following benefits are already appearing. The people afflicted with sorrow and burdened by taxation are less tolerant of imperial pomp. They are demanding the division of royal estates into farms, and they are well aware that statesmen who have risen from the common people have ruled more wisely and are more loved by the people.

So I would say to the New York woman whose questions prompted these remarks: "Although the royal families of Europe are closely related, the war has occurred not because of such kinship but in spite of it. The struggle is one of democracy against despotism, of humanity against brutality. The cost to this generation is tremendous. But those who in thought, word and deed do their bit to help America and the Allies win are helping to make the earth safer from wars of aggression in the future and a better place in which our posterity may live in peace and happiness."

The Editor



# The Country Church

## The Way One Such Organization Gets 170 Members

By EARL ROGERS

JUST as sure as time will go on there will be fewer country churches. This is in keeping with civilization. Last year statistics told us there were more than 500 unused country churches in Ohio alone. By this time the number must have increased somewhat, though the increase has been greater than it will be from now on, I feel sure.

The church I attended until I was twenty years old is abandoned. The building was sold to a contractor recently for \$200. It cost about ten times that amount. But there was no use for a church there. A small city within three and one-half miles and another thriving church within four miles could easily handle this congregation—and they did. What incentive is there for a young person to attend a Young People's meeting where the attendance runs about ten persons each meeting? There are about half enough people to take part, and the result is a dragging, uninteresting meeting almost every time. Besides this, a small congregation can seldom pay more than a small part of the salary of a circuit preacher.

But what I started to tell about was a country church that does things. And because they do not have to buck up against the things I have mentioned is why they are so successful.

The church is located in the center of what originally was a Scotch settlement. It is accordingly called Scotch Ridge. Now, of course, this Scotch settlement is diluted with nearly every kind of person, just as you find anywhere. This church draws from a radius of four miles, and has now a membership of 170 persons.

We have a resident minister. He is young and well liked. Though he unfortunately has inherited ideas which do not allow him to sanction things that are very much a combination of social and religious work, he will in time no doubt see the broader plan and its consequent benefit to the church itself and the community.

### The Church a Busy Place

As it is, there is a building used for worship that was built in 1903, and it cost approximately \$6,000. There are services twice each Sunday, a midweek prayer meeting, a monthly class meeting, a monthly business meeting of the Young People's Society, and other social affairs sandwiched in between these at times.

Each year there is a home-coming. This event includes various athletic and speaking contests, and fun of every good old-fashioned kind.

The basement of the church contains a library that is growing and will later be of considerable use to the members of the Sunday school and church. Stoves and dishes and tables are in this basement so that ice cream and other socials may be held at any time without the burdening of any member's home with the necessary work of such an affair. The rooms are large enough so that various games are always played by the people after the supper is out of the way.

Here the banquets are also held. The Sunday-school superintendent arranged for such an affair after a contest for attendance and membership was concluded. The winning side was of course banqueted by the losers. Toasts were given by several of the leaders in the contest, and everybody enjoyed these departures

from the sameness usually adhered to in country churches.

Speaking contests are frequently held under the auspices of the W. C. T. U., and are always well attended. Other speaking contests are also held in the auditorium of the church. Usually the collection at such a time goes to the winner of the contest. Music and fun are sandwiched in between parts of such programs.

The average attendance for the first thirty Sundays of this year in this Sunday school was 129. This is low, but the preacher who should be among us is away seeking to regain health, impaired through overwork, and this affects the

ment of the various social activities of the church is run each week in the country daily newspaper, along with the biggest city churches. These things all help to make it the live country church that it is.

### Let's Not Say It

Edgar L. Vincent

WHAT is that thing in you and me that makes us double up our fists and want to strike back when a mean thing is said about us, or somebody just looks sneeringly at us or someone who is dear to us? How often we hear it said:

"I gave him back as good as he sent! I'd do it again if he did that to me!" And the chances are we would do and say the same thing if we were in this friend's place, for we are pretty much alike in this world. A blow brings back a blow. A harsh word will have its answer. But is it the best way?

This morning you said something that brought the tears to the eyes of Mary. It was a busy time and you were a little bit worried. The words slipped out before you knew it. You felt ashamed of it the moment the thing was done, but you were gritty and you went away out into the field without making it right with Mary. You did not say "Good-bye," as usual. Maybe you did not even kiss the baby or look at the good-wife to see how she was taking it. If you had, you would have seen a drop of something shining in her eye which would have broken your heart. The old dog knew something was wrong. He went with you out to your work, but he did not feel well.

His tail had a sad kind of droop to it, and he did not look at all happy.

You did not have a very good time of it that forenoon. Things did not go right, somehow; they never do when conscience is alive and on the job. The team acted the worst you ever saw it act. The harness broke down. The plow point snapped right in the middle of the forenoon. That meant a trip to town for another. You had to unhitch and go to the house. The house? What about Mary and the little chap and that cross word this morning?

### A Vow Not to be Cross

Ah, away out to meet you the dear one is coming, her hand holding the wee one trudging on through the deep grass. A hand is waved to you. Do you wave back again? Sure! And as you wave, something as big as a mountain rolls off your heart. "She's the best woman in the world!" And if you are the man you ought to be, you then and there make a vow: "Never again as long as I live will I hurt Mary that way." You will do your best to keep that promise, too. Nor will it end there. You know

as well as you want to know that every blow you strike, every mean thing you say to or about another, hurts you ten times more than it does anybody else. That old saying, "Action and reaction are equal," is not true. Reaction strikes a death blow, while the action may be only a tap of the finger.

The calm, steady, self-controlled life is best. Sitting on the safety valve is all right; but what is the use of wasting fire in getting up steam that will only burst the boiler if it is not kept under control? The strongest man in the world is the man who just aches to say things and doesn't.



What incentive is there for a young person to attend a meeting with ten persons present?



The people of this church see the uselessness of their boys and girls going away for entertainment, so they see that the church furnishes it



## Thirty Six Separate Poisons

At a meeting of the Royal Society of Medicine of Great Britain the speakers listed *thirty six separate poisons which are generated by the decaying waste matter in the lower intestines of a constipated person.* These poisons cause a multitude of serious disorders. Constipation is dangerous.

The Nujol treatment for constipation has the hearty endorsement of eminent medical authority.

Nujol protects the system against the irritating and dangerous poisons generated by constipation. At the same time the effective lubrication of the bowels and the softening of the bowel contents by Nujol enables the body to rid itself of the accumulated mass of decaying matter that poisons the whole system. The healing qualities of Nujol help the bowels to regain normal activity.

Nujol is neither a drug nor irritant, is not absorbed into the system, is not habit forming, does not upset the stomach nor interfere with the process of digestion. Nujol is pleasant to take, is not weakening when taken in large quantities. It is equally suitable for children and adults.

Send for booklet on Nujol and its uses. Insist on the genuine. There is no other product like Nujol.

In bottles bearing the Nujol trade-mark only—never in bulk.

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# FARM and FIRESIDE

THE NATIONAL FARM PAPER

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October 6, 1917

## Cost of Growing Wheat

NOW that the Government has fixed the price of wheat, both for the 1917 and 1918 crops, the question of actual cost of production becomes more interesting than ever. What is the average cost of producing an acre of wheat? Is a price of approximately \$2 a bushel too much? Let us see. A few years ago the cost of wheat was figured at from \$10.50 to \$12.50 an acre, with a few estimates running above or below these figures. That costs have greatly increased since the beginning of the European war all must admit.

In round numbers the cost of an acre of wheat averaging 15 bushels is now \$20, with the chances for still greater cost in 1918.

Here are the figures showing acre cost of wheat in a leading winter wheat State: Man labor 12.8 hours at 15 cents an hour, \$1.92; horse labor for 27.3 hours at 11½ cents an hour, \$3.14; interest at 6 per cent on \$75 land, \$4.50; taxes, 25 cents; upkeep, 30 cents; seed (1½ bushels) at \$2.25, \$3.37; use of machinery, 80 cents; 1½ pounds of twine at 17 cents, 26 cents; threshing-machine hire at 5 cents, 75 cents; coal, 15 cents; marketing, 80 cents; fertilizer, \$4.00. Total, \$20.24.

That these figures are conservative appears upon the closest and most critical study. For instance, the first item, that of man labor, is certainly within reason. We very much doubt if farm labor can be had at 15 cents an hour. The same conservatism applies throughout, whether the item be cost of twine, threshing bill, or taxes on land. Some may question the wisdom of figuring in fertilizer cost, as not all farmers use commercial fertilizers for wheat. This is quite true, but all wheat takes plant food from the soil.

A 15-bushel crop of wheat removes, in the grain alone, 17.5 pounds of nitrogen, 2.25 pounds of phosphorus, and 4 pounds of potassium. Buy these ingredients in the form of commercial fertilizer and see how much you will have left out of \$4.

So with a 15-bushel crop next year, and with a price of \$2 a bushel, the wheat grower may realize \$9.75 an acre more than his wheat cost him, provided he has no bad luck. On a 40-acre crop this is \$390. This is less than the price of a good team. Surely it is not too much when we remember that the wheat grower takes his chances against hail and storm, Hessian fly, and winter-killing.

## Withhold that "Swat"

WE NO longer swat the prospective valuable breeding males among our dairy and swine herds, sheep and goat flocks, when a year of their service is ended. That would be economic folly. The get of a breeding sire soon proves his worth, and many a

proved sire has doubled and quadrupled his selling value by the uniformly high excellence of his progeny. So do not be carried away with the "swat the rooster" propaganda.

When you are so fortunate as to have a cockerel with known blue-blooded, trap-nested ancestry, withhold the swat until his pullets prove his right to live or doom him to die. A good breeding male in poultry stock handled correctly should live to serve for three or four years.

## Buying Young Live Stock Right

SUCCESSFUL live-stock feeders say that one of the most important things is to get the young stock bought right. Sometimes a man is a good feeder but a poor trader, or it may be that he cannot be deceived in his judgment of live stock out in the open but will fail to see all the angles when trading at the stockyards. In such cases it is safer to let a commission buyer do the buying. If this commission man is what he ought to be, he is familiar with the way many of his purchases turn out, which makes his judgment worth something.

In May this year there was a great demand at Kansas City for Angora goats to put on brushy land, to clear it up. Only a few goats were coming to

## Cover the Naked Soil

THE outermost soil layer of Mother Earth has a close similarity to the skin which protects the human body. This soil covering of productive, well-conditioned land is injured by an overplus of stagnant water, excessive dryness, the baking and hardening effects of summer's heat, and the heaving and leaching accompanying winter's frosts.

The skilled farm operator tile-drains to take care of surplus water, and thereby also secures fuller use of the subsoil moisture remaining and the fertility it carries in solution. Further, the far-seeing farmer protects his soil surface from the injurious baking effect of summer heat by means of an insulating surface soil stratum of material rich in vegetable substance like decaying plant roots, stubble, stable manure, and green-manure crops.

For the freezing, heaving, blowing, and surface-washing of winter, he provides a fall-growing cover crop to protect his land from winter's harsh usage. This growing cover, when partly killed, blankets the surface and effectively prevents a wastage of the precious plant food which still is held in the living root tissues of the cover crop, ready to be given up to the early needs of the spring-sown crop.



Yelping at His Heels

market, dry weather in Texas having made the season a month late. The first goats to reach the market sold at higher prices than had ever been imagined before in connection with goats, good Angoras for browsing purposes selling at \$10.50 to \$11.25 a hundred pounds. These prices started the goats to moving to market more freely, and prices went down fast the last week in May. Within two days the price was \$9 to \$10 a hundred pounds.

At that stage of the market a man who had some brushy land to be cleared went to the stockyards to buy 100 goats. He bought them on the second day of the break in prices, when they were selling at \$9 to \$10, and he paid \$9 for his goats. He bought from a dealer, and got what he saw in the pen, but instead of getting 100 good young goats he got 65 goats of that kind, and 35 stag goats. The 65 goats had cost the dealer \$11.25 a few days previously, but the 35 he had bought that same morning at \$7 a hundred. All the goats had horns and looked alike, except that the horns of the stags were larger and longer. Thus the buyer lost almost the entire advantage he should have gained by the decline in prices.

## Our Letter Box

### A Backward Look at Prices

DEAR EDITOR: The loudest lament about cost of living is now coming from those who have not felt for long years the pinch of trying to live and pay debts from the meager returns secured from farm produce when the consumer had by a very wide margin the best end of the bargain.

Let me speak for a moment of the prices we had to be satisfied with during some of the thirty-five years since we entered the trucking game in 1882. It was not at all uncommon to sell large heads of cabbage for 2½ cents each—not per pound. We often sold apples, carrots, parsnips, potatoes, onions, and tomatoes, all at the same price per bushel—25 cents. All this produce was in first-class shape delivered to the consumer. We often had to make as many as four trips daily to prevent our crops from going to waste during the rush period. The consumer got his produce for less than the actual cost of production.

During many years of this period there was a golden opportunity for the consumer to save money when the producer was working practically for his board and a very little clothing. Many of our customers and others all over the country who secured produce for one

half its cost value made no effort to save, and now they feel the hardship of high prices. A few took advantage of the low prices of produce and now are able to live comfortably.

It is now the chance for farm owners to have better times, and it will enable the many who are carrying heavy mortgages to get out from under their loads of debt. We shall have to face hardships again in the future, and now is the time for farm owners to produce as much as possible and use their income to the best advantage. We must recover the use of the word "save" as a nation and make saving rather than wasting the watchword.

Anyone with a desire to get ahead and a fair share of farming sense, coupled with farming experience, can now win a fair competence under present conditions, and be of help to his country and the world at the same time.

McKINLEY DIETZ, Nebraska.

## The Wayside Apple Tree

DEAR EDITOR: When I was a boy, more than twenty-five years ago, there stood beside the road from town, more than two thirds of the way home, a small bushy apple tree grown from some cast-away core far in the past. The apples ripened in November and, though sweet, were hard, woody, and tough, and hung on the tree all winter.

Traveling home on winter days afoot, tired out with my heavy basket and hungry as a bear in spring, I would stop at that wayside tree and devour several of the apples, blessing the hand that planted the seed.

In other countries there is both custom and law which compel anyone eating fruit along the road to plant the seed beside it, thus furnishing refreshment for other wayfarers and for many birds.

It is a beautiful custom that should be followed along all our own public roads, and many a tired, hungry traveler would be grateful to the one who planted it on the roadside to furnish shade, and food for birds, man, and beast.

If poor people stole the fruit, plant so many as to be plenty for all, and punish the knave who would destroy any fruit or nut tree of any kind, even on his own farm. Benevolence thinks of other weary travelers, selfishness never does. CLIFFORD E. DAVIS, Maryland.

## Would Get Rid of Dogs

DEAR EDITOR. It is suggested by some writers that the dog be taxed in order to raise a war revenue. It is generally conceded that there are vastly more dogs in the country than are needed. They are a continuous menace to the sheep industry, since the losses from sheep-killing dogs go into the millions of dollars each year, taking the country as a whole. Heretofore the dog nuisance has been uncontrolled. Legislators have tried to control the dog by taxation, and this has proved a failure.

In this State, West Virginia, the dog tax rarely pays the sheep owner more than 40 per cent of the assessed damage. The sheep killed is not only a loss to the owner of the sheep, but it is also a waste of food to the world—just as much so as if that value of human food had been sunk by a ruthless German submarine.

In this time of war, when the world is short of food, it would be a matter of economy to reduce the dog population to a minimum. The tax usually levied on the dog is small compared with the cost of the keep of the dog. The food consumed by a good-sized dog would keep a pig growing nicely. The towns, especially, are very much overpopulated with dogs, and it is those dogs that are the worst menace to the sheep industry. If they cannot find sheep to chase they usually can find hens' nests to break up or some other mischief to get into.

There is a great deal of strong talk about stopping the breweries on account of the scarcity of grain. Why should it not be well to make it a matter of patriotism to reduce the dog population to a minimum for the sake of economy and as a war measure? Why not show our devotion to our country by giving up a few million worthless dogs and turning the food they consume to a better purpose and also give our farmers a chance to grow more wool and mutton?

A. J. LEGG, West Virginia.

## Get Cheaper Sugar

DEAR EDITOR: I wish to thank you most heartily for your letters in regard to rural organizations and the sugar markets. Your suggestions will save our local about \$1.50 per hundredweight on sugar. FARM AND FIRESIDE is a common phrase in the discussions of our local. It is scarcely two months old, but we are highly pleased with the work it has accomplished.

ORVILLE C. JEFFERS, Illinois.





King Ranch House, Kingsville, Texas

## PREFERRED THE COUNTRY OVER

Goodyear Tires are fast coming to be looked upon as staple merchandise.

Like sugar, or wheat, they have a known quality and value in all parts of the country.

Whether you buy a Goodyear Tire from the humblest dealer in a village or from the most pretentious garage in the metropolis, it is the same.

They are all of a kind—the best that honest purpose, fine materials and expert labor can produce.

This uniform goodness in Goodyear Tires is responsible for the widespread preference they enjoy throughout the nation.

They lead all other tires in sales, and their leadership blankets entire America.

The hold they have upon public favor is not powerful in the cities and weak in the country, or vice versa.

It is evenly strong from one ocean to the other, almost in proportion to the distribution of motor cars among the people.

No tire which is not uniformly good could attempt this continental market.

No tire which is not strikingly *superior* could command its allegiance as Goodyear Tires have done.

The miles they give, the punishment they stand, the untroubled service they afford their users, have won adherents against the keenest competition.

Their union of lasting worth and true economy is expanding their domain with every day.

You do not need to go outside your own neighborhood to learn how good these tires are.

People right around you—your friend across the road, perhaps, or over the hill—are using Goodyear Tires.

Ask one of these users, or a dozen if you like, what he thinks of Goodyear Tires and how they serve him.

We are confident that he will earnestly recommend Goodyears for your next equipment.

Sometime you will come to Goodyear Tires, and when you do, you will feel about them as your neighbor.

Sometime you will be recommending them to other friends, out of the satisfaction of your experience.

When you do come to them, buy them of the Goodyear Service Station Dealer near you.

He will help you get from them the final mile we have built into them—that is his mission.

Ask him about Goodyear Tubes—*better* tubes—and what they mean in lowering tire expense.

And ask him about the Goodyear Tire-Saver Kit, a means of tire conservation that certainly should be in your car.



The Goodyear Tire & Rubber Company, Akron, Ohio

GOODYEAR  
AKRON



# SAXON "SIX"

A BIG TOURING CAR FOR 5 PEOPLE



## Don't Pay \$200 or \$300 More than the Saxon "Six" Price

Are these \$200 or \$300 higher-priced cars better built? Here are facts that prove they are not.

Note this. One car selling at \$4,800 and up, uses these 5 features—Timken bearings, Fedders radiator, Spiral bevel gear, semi-floating axle, Exide storage battery—that you can also find on Saxon "Six" at \$935.

Another car selling at a price over \$2,000 has these 4 features—Timken axles, Timken bearings, Spiral bevel gear, Exide storage battery—that you also find on Saxon "Six."

Still another car priced at more than \$3,000 has these 6 features—Timken axles, Timken bearings, Fedders radiator, Spiral bevel gear, semi-floating axle, Exide storage battery—you also

find on Saxon "Six."

And another car selling at more than \$1,250 has these 6 features—Timken axles, Timken bearings, Stromberg carburetor, Fedders radiator, Spiral bevel gear, semi-floating axle—you also find in Saxon "Six."

These cars cited are all leaders in their respective price classes. The features cited are all important features.

They prove—as nothing else could prove—that Saxon "Six" is a quality car.

There's a good deal more we would like to tell you—a good deal more proof we can give that shows the wisdom of buying Saxon "Six" at \$935 rather than paying \$200 or \$300 more. The price is \$935, f. o. b. Detroit.

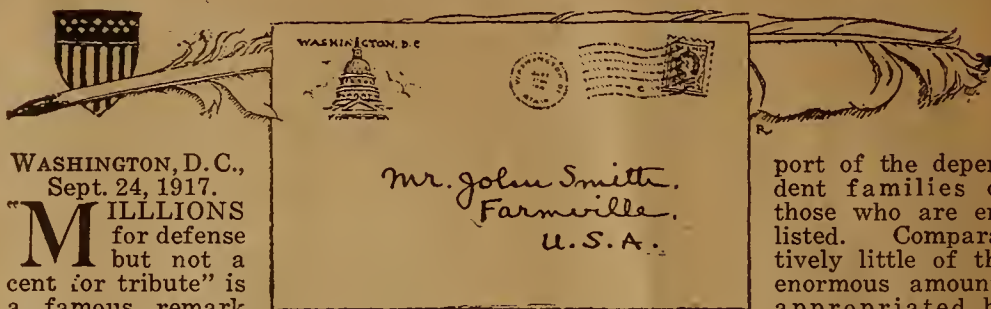
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SAXON MOTOR CAR CORPORATION, DETROIT

# Billions for Defense

Financing the War a Tremendous Problem

By JOHN SNURE



WASHINGTON, D. C.,  
Sept. 24, 1917.

"MILLIONS for defense but not a cent for tribute" is a famous remark credited to one of the founders of the Republic. To-day, to bring the expression anywhere near up to date, one must multiply it by a thousand. "Billions for defense" is the watchword at the White House and in Congress.

When war was declared we all knew it would cost heavily. But notions as to what it would cost were vague. Now, one estimate after another has gone from the Treasury Department to Congress until the entire sum asked for the first year of the war has reached the staggering total of \$21,000,000,000. About one third of this total, or \$7,000,000,000, is for loans to the Allies.

It may help to some extent to conceive what amounts we are expending the first year of war to reflect that \$21,000,000,000 is a greater sum than any annual war budget of any other nation since the dawn of history. It is more than the cost of the Civil War for North and South combined. It is more than the cost of all the wars in which the United States has heretofore engaged.

It was remarked at the Capitol the other day that to meet the war cost this year Uncle Sam would have to spend all his ready cash twice. On a per-capita basis it means \$210 for every man, woman, and child in the United States. If the war goes on for another year after this one, at least as much more will be required for the fiscal year which will begin July 1, 1918. Two years of war will cost the United States anywhere from \$40,000,000,000 to \$50,000,000,000.

War Department experts predict the war will last three years. Judson C. Welliver, writing home from London, says many there believe the war will last five years. All of us hope and pray that it will soon end, but at the same time it cannot be denied that several years more of war is a grim possibility. And it is safe to say that the first year of the war will prove the least expensive.

Each one of us might as well begin to give thought to the cost of the war. It is a subject every family will have to consider, and it will be just as well for one to set his house in order to meet his share of the burden. Some there are who, seeing the expense of the struggle, will advise peace on any terms. But there is no doubt as to the sentiment of the great majority of Americans. It is that we must see the war through.

"The people of my district are loyal. Regardless of differences of opinion about going to war, they say that we must fight to a finish."

This is the testimony given by hundreds of members of the House of Representatives who have recently visited their districts. It means we will carry on the war, cost what it may.

HOW is the Government going to meet the vast sum needed for the war?

At first glance it might seem as if it would be impossible to meet it. But on reflection the difficulties, great as they are, are seen to be by no means insurmountable. The national wealth is conservatively estimated at \$180,000,000,000. This is a substantial source from which to draw, and one that will not soon dry up, whatever happens.

In the second place, and this is about the most consoling phase of the matter, the vast amounts Congress is appropriating will for the most part be spent in the United States. Comparatively little money will go abroad. Even the billions loaned to the Allies will be spent in this country for guns, munitions, foodstuffs, horses, aeroplanes, and supplies of every description needed for the war. The same will be true of \$14,000,000,000 or more needed for our own Government in the first year; the most of this will be spent in the United States for war equipment of every kind.

Great amounts will be paid out in wages to labor, great sums in pay for the troops, increased sums for every department of the Government, many millions for war insurance for soldiers and sailors, much for the compensation of the injured, much, too, for the sup-

port of the dependent families of those who are enlisted. Comparatively little of the enormous amounts appropriated by Congress will be expended beyond the boundaries of the United States.

In other words, while there will be a shifting of the ownership of dollars by reason of the huge war expenditures, there will be much less subtraction from the total resources and wealth of the nation than might be imagined.

Giving due weight to this fact, we can all take heart and conclude that in spite of the cost and deadly destructiveness of war it is not going to cut the wealth of the nation as a whole to the extent the enormous figures on appropriations indicate. When the war closes we may find ourselves much more prosperous than we imagine.

It is important at this juncture to recall that at the time of the Civil War, in spite of the cost of that struggle in men and money, in spite of the ruin and desolation which it wrought, the North actually prospered. The close of the war, in 1865, found that the Northern States had developed wonderfully in comparison with 1861. So long as America is not invaded it is a safe prediction that it will bear any war burden which it is likely to be called on to bear, and will find a way of meeting all financial requirements without stopping business or putting prosperity to flight. Neither the farmer, the business man, the laborer, nor the manufacturer has any reason to lose heart because the size of the government appropriations and the proportions of the government debt look insurmountable.

THE money for the war, of course, will have to be raised chiefly by bond issues. Thus the cost of the war will be largely passed on to future years. Other generations will have to help bear it. Something like one part in six or seven will be raised by taxation and the rest by bond issues.

Congress has developed a great fight over the question of who is to pay the bulk of them. One of the most interesting struggles of the extra session in the Senate has been over the question whether the rates of taxation should be raised heavily on great incomes and war profits. The result of this struggle has been enormously to increase the taxes which will be drawn from both these sources.

"If you conscript men, why not conscript dollars?" is a cry much heard since the war opened. It has been heard in Congress and out of it. Beyond any question, the sentiment of the overwhelming majority of the people of the United States is that the cost of the war should be imposed chiefly on those individuals getting large incomes and those business concerns reaping enormous profits out of the war or since the war opened. Senator Borah in a speech in the Senate declared the war profits of great corporations in 1915, 1916, and 1917 totaled about \$7,000,000,000. He demanded to know whether Congress was going to draw heavily on these profits or let them escape. He denounced the idea of permitting vast incomes to go unscathed while taxes on tea, coffee, sugar, and other necessities were imposed on the poor. Effect of such utterances, effect of pressure from the public and other causes, has been largely instrumental in raising the rates of the taxes imposed on war profits of large corporations and concerns, and on incomes of the rich. In a single day the Senate Finance Committee framed amendments to the war-tax bill that raised the taxes on war profits by a half billion dollars, and even this did not meet the demands of numerous Senators.

This may be set down as true: that if the war continues for many months Congress will simply take over 80 or 90 per cent of large incomes and war profits beyond normal profits. "Slacker dollars" is an expression someone has invented for the great incomes and war profits which their owners—and they do not include all men of wealth—have been seeking to shield. Like other slackers, they will find it hard to escape being impressed into the service of the public.

## The One Man Feature



PATENTED

EXCLUSIVE IN

## The Bates Steel Mule

FULLY COVERED BY PATENTS

The one man feature of the Bates Steel Mule makes this the most economical of all three-plow tractors as it is also the most powerful. It eliminates the need for a second man. And the wages and board saved soon pay for the "Mule."

### Imitators Dare Not Copy the "Mule's Tail"

Builders of other tractors recognizing the superiority of the Steel Mule's one man feature have tried to imitate it. But its principles are fully covered by patents. Others DARE not copy them or use it without making their customers subject to the patent infringement law. No other three or four wheel—and no other "crawler" type tractor can imitate the "Mule's tail" without infringing on our patents. This big feature is one of several which reduces the Steel Mule's operating cost to its extremely low figure.

### "Crawler" Delivers Most Power

The "crawler" is another big factor in the Steel Mule's remarkable popularity. This delivers more power at the drawbar than any round wheel tractor in the three-plow class can produce. Regardless of soil conditions, the "crawler" gets a firm grip and delivers a steady, even, powerful pull.

### Costs Little to Operate

The Steel Mule burns kerosene, a much cheaper fuel than gasoline—and gets ample power out of it to furnish a pull of 3,200 pounds. This economy plus the saving of one man's wages will quickly pay the present price of the "Mule." Over 13 D. H. P.

**Reserve Now!** Have your dealer reserve a "Mule" for you—but do it NOW before the present supply is entirely sold out.

**Joliet Oil Tractor Co., 305 Benton St., Joliet, Ill.**



One Man Plows 10 Acres a Day

One Man Discs 30 Acres a Day

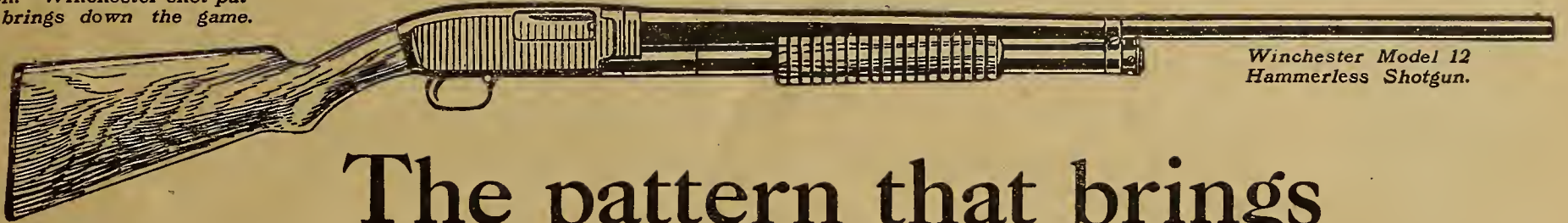
One Man Drills 35 Acres a Day

One Man Cultivates 28 Acres a Day





Even spread, maximum penetration. Winchester shot pattern brings down the game.



Winchester Model 12  
Hammerless Shotgun.

## The pattern that brings down the game

A perfect pattern may thoroughly cover the bird, but it's the high velocity of the shot charge that insures a kill. A game-getting gun must throw an even pattern with lots of steam behind it.

The Winchester Model 12 Repeating Shotgun is designed and bored to *bring down the game*. Its pattern shows a perfectly distributed shot spread with maximum penetration. That's why it is the choice of sportsmen everywhere.

### The gun for every sort of wild fowl shooting

Whether you're snap shooting at upland plover or trying a long shot down in the blind, there is a gauge and a bore of the Winchester Model 12 that will give you the pattern you want. This master shotgun meets every kind of bird shooting requirement.

The Winchester Model 12 is beautiful in design, light in weight, simple and sure in operation. It points like your own arm. It can always be depended on to plant its charge *closely, evenly and strongly* at the range its choke adapts it for. It works smoothly in whatever position it is held. For those

who prefer a hammer action gun, we have made the Model 97. It is built on exactly the same lines as the Model 12, but with hammer action.

### The barrel is the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

### The Winchester barrel

The barrel of the Winchester Model 12 has been bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard the gun cannot leave the factory. The Nickel Steel construction preserves the original accuracy forever.

The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a

distinctive blue finish that, with proper care, will last a lifetime.

What  means

This mark on the barrel means *Viewed and Proved Winchester*. This stamp stands for Winchester's guarantee of quality, with 50 years of the best gun-making reputation behind it.

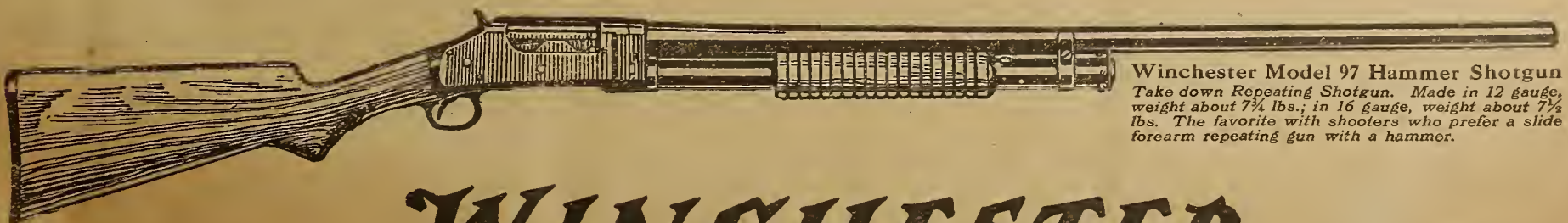
Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and is fired with excess loads for strength. At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process*.

It is this care in manufacturing that has produced in the Model 12 and Model 97 guns of unsurpassed game-getting qualities that have won the name of "The Perfect Repeaters" among wild fowl hunters.

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and Model 97 and describes at length the principles on which every one of the world famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.  
Dept. C-2 New Haven, Conn.



Winchester Model 97 Hammer Shotgun  
Take down Repeating Shotgun. Made in 12 gauge, weight about 7 1/4 lbs.; in 16 gauge, weight about 7 1/2 lbs. The favorite with shooters who prefer a slide forearm repeating gun with a hammer.

# WINCHESTER

World Standard Guns and Ammunition



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— all wear Vellastic

Fit

Comfort

Elastic

Fleece Lined

Warm and Healthful

## VELLASTIC

Elastic Ribbed, Fleece-Lined  
UNDERWEAR

—makes millions happy and keeps millions healthy. The wonderful combination of comfort, fit, elasticity and warmth makes VELLASTIC the choice of men, women and children.

The patented VELLASTIC fabric that stretches with every movement of the body and the velvety fleece lining that gives warmth and health, are the secrets of the great popularity of VELLASTIC. Doctors say it is the ideal winter underwear.

### Buy VELLASTIC at Your Dealer's

—you will feel good—you will feel comfortable—you will feel happy. Sold at popular prices—union suits and separate garments.

Write for Bodygard Booklet No. 26

Utica Knitting Co. (Makers), 350 Broadway, New York



## Garden—Orchard

### Prolonging Garden Season

By S. Thorne

I HAVE tried several ways of extending the season of perishable garden vegetables of late years with gratifying success, but old newspapers and burlap sacks are my main dependents. Newspapers are spread over late bush beans, cucumbers, tomato vines, sweet peppers, eggplant, etc. The burlap sacks are then spread over the papers to hold them in place and furnish additional protection. When these easily frosted plants are saved from the first killing frost, it is often quite easy to prolong the bearing season of these appetizing vegetables for a month or more to the great advantage of our home table. The main requirement is to save a generous supply of newspapers and burlap sacks, then keep tab on the weather man. Most of the vegetables mentioned can remain covered for several days when cold weather threatens, until the cold wave passes.

### Prepare for 1918 Garden

THE best gardens are prepared the fall previous. See to it that no weeds go to seed in and around the garden to seed the soil with trouble for next year. Also burn all rubbish to prevent diseases and insects. Make sure of a manure supply and grow a cover crop such as rye, oats, or barley after plowing the garden this fall, which will furnish a green mulch through the earlier part of the winter and which will kill down and improve the soil in the spring. Save and protect bean poles, trellises, plant protectors, cold-frames, and make sure of a generous hotbed equipment before winter sets in.

### Soapsuds for Plant Lice

By L. E. Armour

WE GET the best of the aphids, or plant lice, which quickly multiply into millions on turnips, cabbage, and various other garden crops, by using strong soapsuds. For crops like turnips we use mops made of light strips of strong cloth or string tied to light but strong handles. These mops are dipped into buckets of the soapsuds (suds left from washing reinforced with more soap will do) and are lightly swept under and through the turnip leaves and those of other similar crops affected with the plant lice. The mop wets and



These Bermuda onions, three inches in diameter, grown in Michigan, were started from seed in hotbeds and transplanted to field, thus gaining time

### Your Experience, Please

ONE of FARM AND FIRESIDE'S readers writes: "The average quantity of spray material required for my orchard trees of different ages I figure about as here shown:

- About 2 gallons for trees 8 years old.
- About 3 gallons for trees 10 years old.
- About 4 gallons for trees 15 years old.
- About 5 gallons for trees 20 years old.
- About 6 gallons for trees 25 years old.

"When ready to spray on the trees, the cost of this material stands me about one cent a gallon, or an average of about 20 cents a tree for the season. Of course the cost of applying the spray varies much with the season and with the lay of the land where the orchards are located. Portions of my orchards are located on steep hillsides, where the spraying is much more difficult."

How do these figures compare with those of other FARM AND FIRESIDE readers who practice spraying their orchards?

### No Bruised Apples

By D. H. Peffley



LAST fall you published a handy apple picker, so I am describing one of my own which I have used for thirty years and have not renewed the delivery sack. The sketch shows how the picker is used. The chute is made of bed ticking and is open at the lower end.

I let the apples fall into the chute, and with my right hand I keep them from going all the way through. When I have three or four apples, I take my right hand away and let the apples go through into a basket.

I have one chute, 13 feet long, which touches the ground. With this delivery sack on an 11-foot pole the apples roll out on the ground unbruised. One of

smears the soapsuds directly on the lice, which ends the life of every one touched. Merely sprinkling the upper surfaces of the leaves does not reach the plant lice. Home-made soft soap made from leached ashes works well. Make the suds as strong as is used for boiling clothes.

### Prize Potatoes in 75 Days

FOLLOWING the potato famine of last spring, it seemed like finding pockets of gold to dig newly grown perfect specimens like the potatoes here pictured. These Early Ohios, fit to grace a vegetable show, were grown by Mrs. M. A. Murray in a generous-sized Ohio kitchen-garden patch, and were ready for the table two and one-



half months from planting. The potatoes shown in the plate weighed 3 pounds 15 ounces, and the quality equals their perfect appearance. It need hardly be said that this garden crop lacked nothing essential in culture, fertility, and protection from enemies.

THE quantity of tomatoes grown in New Jersey is enormous. It is estimated by good authorities that New Jersey growers receive a greater aggregate income from tomatoes than in any other State. It is not uncommon for 30,000 acres of tomatoes to be grown in New Jersey in one year.

E-W



## "Ball-Band" Vacuum Cured Rubber Footwear

Long Wear, Good Fit, and Comfort

Buy "Ball-Band" Rubber Footwear and you get good, strong, sturdy footwear that will give long steady wear.

The "Ball-Band" Coon Tail Knit Boot is knit not felt and has the original "Ball-Band" snow excluder feature. It is completely shrunk and represents the limit of protection from wind, slush, and cold.

Look for that Red Ball whenever you buy Rubber Footwear and you can depend on the greatest number of days wear at the lowest cost per days wear.

Write for free illustrated booklet "More Days Wear" describing the different kinds of "Ball-Band" Footwear your dealer can show you.

MISHAWAKA WOOLEN MFG. CO., 305 Water St., Mishawaka, Ind.

"The House That Pays Millions for Quality"





## Crops and Soils

### Big Three-In-One Meeting

By B. F. W. Thorpe

HERETOFORE the eleven previous joint meetings of the International Farm Congress (formerly known as the Dry Farming Congress) and International Soil Products Exposition have been held rather closely to semi-arid territory in locating the place of annual meeting. This year it has drifted east to Peoria, Illinois, where this international event will also include the National Implement Show. It is now the purpose of these organizations to include more fully the farm interests and soil products of humid as well as arid lands of all nations in the scope of their activities and meetings.

This year, prospective visitors to these combined meetings can count on seeing exhibits of soil products and demonstrations of farm and home equipments from at least two thirds of our own States, fourteen foreign nations, and four Canadian provinces. Of these exhibitors, fifteen Western and Midwestern States and Canadian provinces have entered collective agricultural exhibits in the Soil Products Exposition.

During this meeting, which holds from September 18th to 29th inclusive, there are scheduled discussions of every important phase of farming and home-making economics, together with a most attractive program of entertainment. The outlook is for the largest attendance in the history of these joint annual events.

### Problem of Organic Matter

RESULTS based upon analysis of cultivated and uncultivated soils show that the cultivated soils in many Middle West States have lost from 1,200 to 1,800 pounds of nitrogen, and from 32,400 to 49,600 pounds of organic matter to the acre in the surface soil.

This means in round numbers that these soils have lost from one fifth to two fifths of the nitrogen, and from nearly one fourth to one half of the organic matter. The cultivated soils have lost on the average more than one third of their original stock of organic matter. The seriousness of this situation cannot be overemphasized.

Nature's essentials for profitable crop production are these—good seed, proper amount of light, suitable temperature, proper physical and biological conditions of the soil, an adequate amount of moisture, and plant food. The organic matter of the soil is directly connected with and influences all these conditions except seed and light. If, then, more than one third of the organic matter has been lost from our soils after less than fifty years of cultivation, it makes the thoughtful man stop and consider.

The decrease in the crop-producing power of the soil is a familiar fact. The larger productiveness of virgin soils, as compared with the productiveness of the same soils after they have been under cultivation for several decades, is well known by men who broke up the virgin prairie sod and have continued to cultivate that soil for half a lifetime or more.

More live stock is regarded by some

persons as the panacea for all soil troubles. If raising more live stock by itself were the cure, then a typical live-stock county, where more grain is fed than raised, should not show this decrease in crop production. Figures show, however, that there is an average decrease in crop production in typical live-stock counties as well as in those counties where the type is called grain-farming.

No one system is to blame altogether, and the other system will not necessarily offer the remedy. If the people deplete their soil fertility—and particularly organic matter—by exclusive wheat-farming and straw-burning, and other people continually harvest forage crops from their cultivated fields and feed these forage crops as well as imported grain on the banks of a ravine, where the manure is washed away, there is no difference between these systems so far as they affect the fertility of the soil.

In addition to returning the organic materials in the form of straw and farm manures, some substances must be added to restore the nitrogen removed in the grain. A bushel of corn takes one pound of nitrogen, and a bushel of wheat one and one-third pounds.

The best method for obtaining this nitrogen is by growing legumes such as alfalfa. But this nitrogen will not be restored to the soil if all the hay is exported from the farms. Some of the best agricultural investigators are of the opinion, based upon scientific experimentation, that legumes on the average take only as much nitrogen from the air as is found in the hay. Therefore the growing alfalfa, if grown for export, will not solve the problem of soil fertility any more than live-stock farming when the fertility is wasted on the banks of a ravine.

### Sudan on Upland

SUDAN GRASS, the new sorghum that received such wide-spread attention last year, is showing up well again this year. The results of trial plantings in many States show that it is a crop that has come to stay.

Where other tame grasses cannot be grown, Sudan grass can be used successfully. Although the grass is primarily a hay crop, tests from the standpoint of a pasture crop have been made by many persons, and the results have been promising.

Sudan grass will add thousands of dollars to the profits every year, since it will afford a hay crop to the upland farmer that will mean as much to him as alfalfa does to the bottom-land farmer. Experiments have shown that under normal conditions two crops can be depended upon. The yield is larger than that of millet, being from four to six tons an acre. Horses and cattle are fond of it, and will leave almost any kind of roughage for Sudan grass. They clean up heads, blades, and stalks.

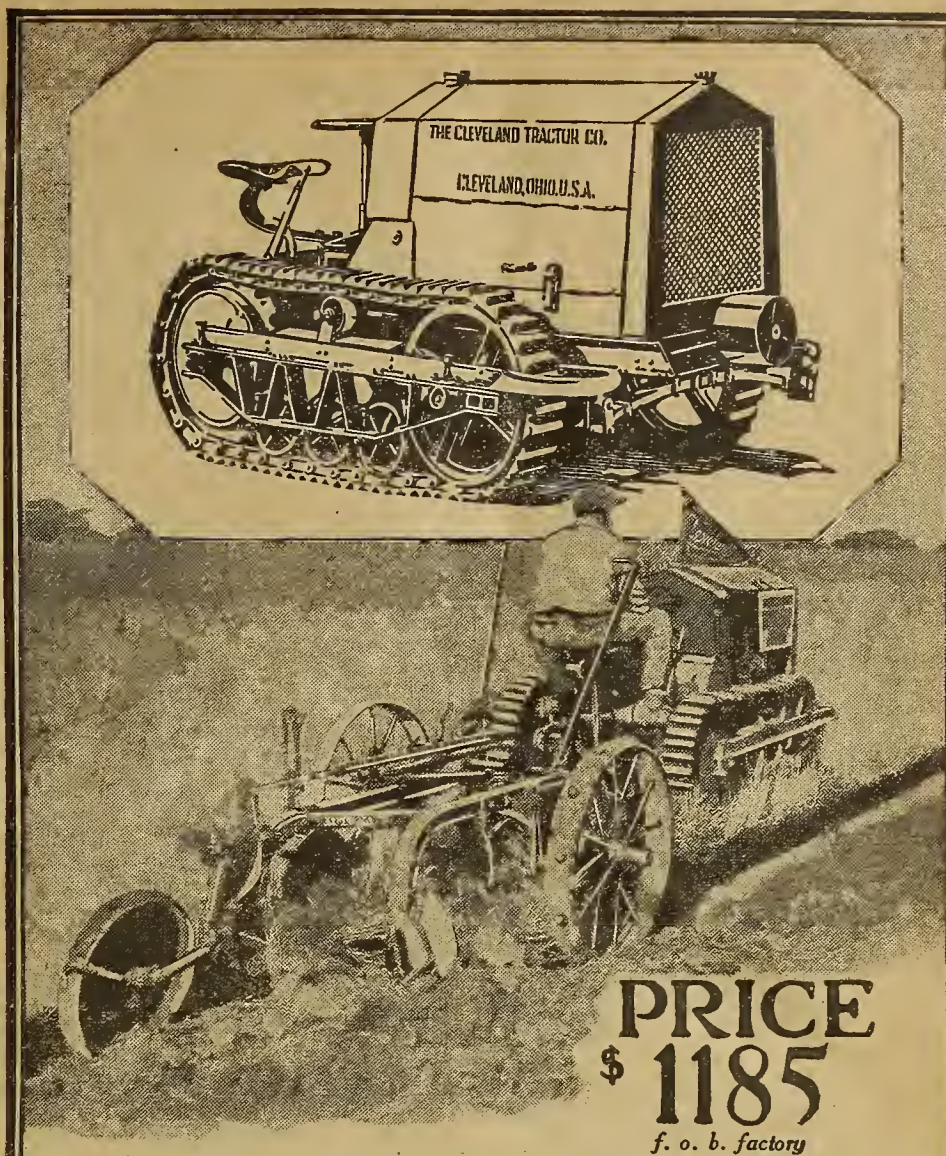
Where a seed crop is desired, the best practice seems to be to let the first crop mature for seed and harvest the second crop for hay. Planting is usually done three weeks later than corn in the same locality. One person reports that from planting June 14th he harvested the first crop the last week in August, making six tons to the acre. The second cutting was made October 1st, and a yield of two tons an acre was obtained. This particular crop was grown on bottom land.

Some of the most desirable characteristics of Sudan grass are its drought-resistant qualities, its ability to produce on upland, and its quick maturity under ordinary conditions. These qualities, together with the seemingly superior palatability, make the crop reasonably sure of a permanent place in many States.



Some of the desirable characteristics of Sudan grass are its drought-resistant qualities, its ability to produce on upland, and its quick maturity

F W



PRICE  
\$ 1185  
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## Now You Can Plow 3½ Miles an Hour—Even Faster

Such plowing speed used to be considered impracticable—even impossible.

But the Cleveland Tractor has proved that it can not only plow at that rate—but plow in a way that cannot be approached by horses.

The Cleveland Tractor has proved that it can plow—and plow well—at 3½ miles an hour.

At the Fremont Tractor Demonstration, over land that was literally muck, it pulled two 14-inch bottoms running 8 inches deep at an average speed of 3½ miles an hour.

The thousands who saw the performance pronounced it the finest job of tillage they had ever seen.

Small and light, and hauling two bottoms instead of three the Cleveland Tractor is remarkably easy to handle. It works with such speed that it does as much and in some cases more than 3-plow tractors—and more economically. At plowing the Cleveland Tractor actually does the work of three 3-horse teams and three men. Its speed can be applied not only to plowing—but to any one of a wide variety of tasks—even to riding in to dinner or home when work is through.

It crawls on its own tracks. It can go anywhere—through sand or mud, up hill or down dale—even over ditches and gullies.

Because it has 600 square inches of continuous traction surface it does not slip, mire or pack the soil.

The Cleveland gives 12 h. p. at the drawbar and 20 at the pulley—plenty of power to meet the requirements of any farm.

It only costs \$1185, yet it is constructed of the best materials.

It is built by Rollin H. White, one of the country's greatest motor truck engineers. All gears are identical with those used in the finest trucks and all are protected by dirt-proof, dustproof cases.

The Cleveland will enable you to plow when and where needed—without a moment's loss of time. It will help you increase the yield of your acres as it is doing for many others.

We are crowded with orders from all sections of the country. We advise ordering early if you want your Cleveland in time for early spring work.

Get full information now. Use the coupon

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**Cleveland Tractor**  
Geared to the Ground

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Please send me full information about the Cleveland Tractor.

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ONLY  
\$2 Down  
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### on This Easy Self-Earning Plan

You won't feel the cost at all. The machine itself will save its own cost and more before you pay. We ship any size separator you need direct from our factory and give you a whole year to pay our low price of only \$24 and up. Read what Alfred Getches, No. Jackson, O., says: "We are getting more than twice the cream we were before. The separator is very easy to clean and runs very easy." Why not get a lifetime guaranteed New Butterfly separator for your farm and let it earn its own cost by what it saves?

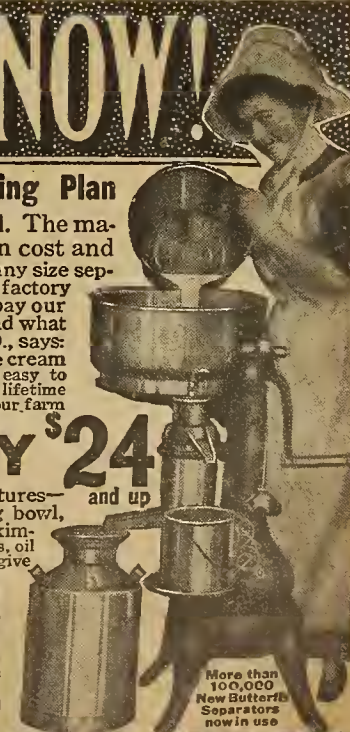
(31) **NEW BUTTERFLY \$24** and up

Cream Separators have these exclusive high grade features—frictionless pivot ball bearings bathed in oil, self-draining bowl, self-draining milk tank, easy cleaning one piece aluminum skimming device, closed drip proof bottom, light running cut steel gears, oil bathed. Guaranteed highest skimming efficiency and durability. We give

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against all defects in material and workmanship. We ship you the size machine you need, let you use it for 30 days. Then if pleased you can make the rest of the small monthly payments out of the extra cream profits the separator saves and makes for you. If you are not pleased just ship the machine back at our expense and we will refund what you paid. You take no risk. Write for FREE Catalog now.

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## Destroy Smuts

Cleanse all seed grains with Formaldehyde solution before planting as it positively destroys smuts, of wheat, oats, barley, rye, etc. It prevents scab and black-leg diseases of potatoes, also cucumber and onion rot and cabbage diseases, etc.

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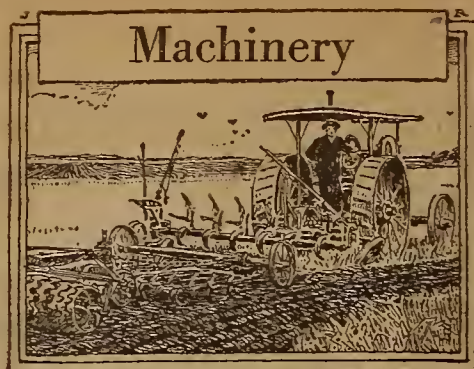
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## Rolling Soil with Tractor

By Raymond Olney

A CLAY COUNTY, Iowa, farmer tells of an instructive experience he had in seeding raw prairie land to flax, in which the moderate packing effect of the tractor wheels was used to good advantage.

He first built a home-made roller wide enough to cover the space between the tracks of the drive wheels, the object being to pack the ground not packed by the tractor wheels. The roller was constructed as follows:

A square frame of four-by-six-inch timbers was made, and at the center of one side was bolted a tongue three feet long, to hitch to the engine drawbar. To make the construction still more rigid, two brace rods were bolted to the end of the tongue and to the corners of the frame.

There were available a number of old threshing machine wheels, which he placed together on a piece of two-inch shaft on which each wheel was free to move independently. The frame of the roller was then mounted on the shaft, the latter being held in place by two pieces of strap iron bolted to the frame. A quarter-inch hole drilled through the frame directly over the shaft permitted oiling.

Around the top of the frame was built a large strong box, which was filled with rocks to give the roller the necessary weight. The object was to have the unit pressure of the roller on the ground practically equal to that of the tractor drive wheels. The total width of the strip of ground packed by this outfit at one time was 7 1/2 feet.

To the rear of the roller frame was hitched a 7 1/2-foot single-section disk harrow, to this harrow a 7 1/2-foot single-disk drill, and to the drill a smoothing harrow. This outfit covered an average of 18 acres a day.

The particular advantage of the packing effect of tractor and roller, as told by the owner, was in packing the sod firmly, thus enabling the disk to cut and mix it with the soil more thoroughly. By the time the drill and smoothing harrow passed over the ground, it was left in good condition. The owner says that this outfit provided as good a seed bed for flax as anyone could desire.

## Heavy Engine Made Portable

By Chas. E. Richardson

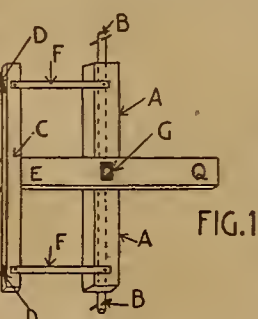


FIG. 1

ABOUT a year ago I bought a six-horsepower gasoline engine. It was on skids, and whenever I wished to move it around I had to hitch a horse to it. This engine weighed nearly a thousand pounds, which made quite a pull for him. And, besides, if the skids happened to slide over uneven ground the engine would topple over, which did it no good. On one occasion the pulley cracked and I promptly decided to make a truck for it.

By looking over several junk piles in my locality, I secured two pairs of old mowing-machine wheels, a couple of steel buggy tires, and a pair of shaft connections. With some timber I had at home I was ready to make a truck for my engine the next rainy day.

One pair of mower wheels was slightly smaller than the other, so I used them in front. They would have done all right in the rear, as there was only a slight difference, but for the looks I preferred the small pair in front. I made a "bunk" for these, as shown in Fig. 1. In this figure, A is a piece of hard wood to fit in between the wheels which go on the ends of the axle B B. C is a piece of hard wood to which the shafts are connected at D D. C is held in place by the board E, and also by the two pieces of buggy tire F F. G is a piece of iron for the axle to swing on, and has a hole for the king bolt. This iron (G) I made from a piece of old sled runner. If you have a drill, you can bore a hole through the iron axle to enable the king bolt to pass through.

But if not, the hole can be bored a little forward so the king bolt will pass just in front of the axle.

Fig. 2 shows the main body of the engine truck. I took two pieces of 8x8 (6x6 would do if the engine is not too large) and made two reaches, K K. As I wanted to have a saw table on the outfit, I made them nine feet long, but if you want just a simple truck there is no need for making them so long. L is a piece of hard wood that the king bolt goes through from above. M is another rub iron the same as G. G and M join when the truck is set up.

J, the rear bolster, should be about twice the thickness of the wood over the front axle, so the truck will be level when complete. P is a piece of wood for Q (see Fig. 1) to rub on when the front wheels swing. H H are pieces of buggy tire with holes bored in the ends for fastening rear axle to bolster J.

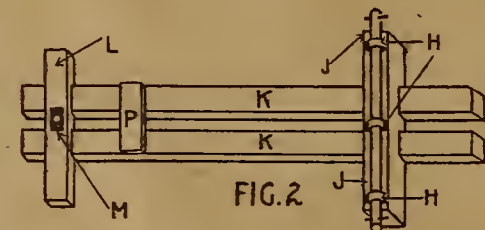
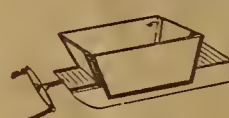


FIG. 2

To set the truck up, place piece L (Fig. 2) over piece A (Fig. 1). Pass the king bolt through iron at G. Put the wheels on, and it is then complete except painting, which I think pays in the end. The placing of the engine and its accessories will vary according to the kind of engine and uses required, but place it as near the middle as possible to equalize the weight. This outfit cost me less than \$2 outside of my time, which was about a day's work, as I bought the material at junk prices.

## One-Horse Carryall

By Bert W. Culbertson



I AM one of those farmers who still use single-horse plows and other small implements. Realizing the need of a sled or some device on which to carry them to the field, I made the carryall illustrated. Implements and attachments can be safely carried without the fear of having to walk back to find some little thing that dropped off.

It is a sled with a strongly built framework and a box body, flaring out at the top. The construction is of planks braced with strap iron. The back of the box is hinged at the bottom so it may be let down in case anything heavy is to be loaded. One horse easily pulls this carryall, which is a small one, but I have no doubt that a larger one requiring two horses would be exceedingly valuable on larger farms.

## Trace-Chain Casing

I FIND that the best casings for trace chains, where they rub the team, are common single-tube bicycle tires, which may be cut so as to make two, three, or four, depending on the length you desire to have them.

They do not slip easily, and will outlast the leather ones because of the absence of the seam. Do not throw away the old tire next time.

## Power Saw for Carpenters

REDUCING the cost and increasing the rapidity of building are two objects aimed at by the invention of a light power-driven saw rig.

The entire outfit weighs less than 900 pounds and includes a five-horsepower gas engine, rip saw, cross-cut saw, gauges for guiding the wood, emery wheel for sharpening tools, and numerous attachments useful in carpenter work. The engine is directly under the sawing table, which makes the outfit compact and easily portable.

The purpose of the machine is to do the tedious work of hand sawing by means of small power-driven circular saws, and to reduce the number of carpenters ordinarily required. Its greatest usefulness, apparently, will be for the fast framing of large buildings.

## Less Coal Spilled

By Wm. L. Shick



THE ordinary coal hod as purchased is not very practical for filling stoves, because so much coal spills out over the sides. To prevent this, take a cold chisel or heavy tin shears and cut off the nose of the hod at the point shown by the dotted line.

## Graphite Removes Scale

By C. M. Kline

OWNERS of farm gas engines often experience trouble from overheating. One cause of this is the formation of scale on the walls of the cylinder jacket. The effect of this coating is to hinder the transfer of heat from the cylinders to the water circulating through the cooling jacket, and overheating may result.

In some localities the cylinder jackets will almost fill with scale in a few weeks of running. This deposit consists of earthy or limy solids which adhere to the walls of the jackets. The rapidity with which the scale forms depends upon the amount of solid matter held in solution in the water.

It also depends to some extent upon the amount the water is boiled. Scale will of course be deposited faster in a hopper-cooled engine, where the water boils nearly all the time the engine is in operation, than in an engine having pump circulation for cooling.

## Acids Effective but Harmful

Nearly all hard water contains some scale-forming matter. In some sections it may be relatively small and require little if any consideration, while in others it is so great as to cause engine users serious trouble.

The compounds of iron oxide, carbonate of magnesia, carbonate of lime, the sulphates of these materials, and other solid matter are held in solution in practically all hard water in varying amounts. The carbonates of lime and magnesia are the chief causes of scale deposits.

Since this scale is a very poor conductor of heat, the thicker it gets the more it will interfere with the proper cooling of the engine.

The best preventive of scale is rain water, which we know contains no scale-forming matter. Not all gas-engine owners have sufficient rain water available for cooling purposes, but many have, and they should use it in preference to hard water, especially if the latter contains very much scale-forming matter.

The usual method of removing scale is to fill the jacket space with a dilute solution of sulphuric or muriatic acid. This is allowed to remain a few hours, or until the action of the acid has dissolved the scale. Then it is drained off and the jacket space thoroughly flushed out with running water to remove all traces of the acid.

## To Prevent Scale Deposits

It is an effective method of removing the scale, but the acid is rather severe on the metal parts.

Boiler graphite is also an effective preventive of scale deposits and, besides, if loosens scale that has already formed. In some localities it is necessary to use water for cooling purposes that is known to contain large quantities of scale-forming compounds.

The action of graphite is mechanical, and not chemical. It does not rust or harm the metal surfaces with which it comes in contact. The qualities of graphite are peculiarly adapted to preventing and removing scale. Anyone who has handled stove polish, which is mostly graphite, knows it readily breaks apart. But its adhesive qualities—that is, its ability to stick to other objects—are very great.

If graphite is put into the jacket before the scale forms, and is well distributed, it will adhere to the metal surfaces and prevent the formation of a hard scale that is difficult to remove. The theory of this action is that the solid particles which separate from the water are coated with the graphite, and because of the poor cohesive qualities of the graphite a hard scale is not formed.

Now suppose a cold gas engine the jacket of which is coated with a thick lime scale is started. As soon as it warms up the metal expands, causing the scale sticking to the walls to become cracked and checked. If graphite is mixed with the cooling water it will work into these cracks before they have an opportunity to become recemented. Each day the engine is started new cracks will be formed, due to the expansion of the metal, so that in time the graphite will pry the scale loose and cause it to break down or become so porous that it can be easily removed.

Only a good grade of boiler graphite, put up by a reliable concern, should be used. The only danger in using it would be that too much might be put in, which would clog up some of the small openings. This would apply only to cooling systems using pump circulation, and not to hopper-cooled engines.

One graphite manufacturer recommends about a teaspoonful of graphite to a gallon of water. This should be put into the jacket after cleaning. Then, when the water is added, it will aid in properly distributing it.



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Correct lubrication will extend the life of the tractor as well as insure the maximum power delivery of your engine.

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## Poultry-Raising

### Can Sparrows be Outwitted?

By A. B. Weale

I NOTE that the destructive rat is discussed and active warfare advised against this pest in a recent number of FARM AND FIRESIDE. I hate a rat bad enough to war against him early and late. I have kept chickens at three different places, and have never been troubled with rats, because I kept the surroundings so that rats were not attracted. But my particular torment in poultry-keeping is the English sparrow. My back is scarcely turned when feeding and watering my poultry, before a flock of sparrows swoops down on the water pans or feed troughs, or wherever feed is placed. The sparrows soon know the time of feeding and are always on hand. Mother hens that will fly at one another's broods to drive the chicks away will allow sparrows to eat from under their bills and pay no attention to them.

I believe the English sparrow robs the poultrymen of the country of about as much food as the rat. Poultrymen should have a wire, sparrow-proof enclosure in which to feed chickens, but all of us are not yet so equipped. I say, swat the English sparrow.

### A Goose with a History

By M. Robert Conover

WE FREQUENTLY hear of the longevity of geese, but seldom is there to be had definite knowledge about aged geese and their productiveness. One example of an aged goose of White China variety is owned by Mrs. Leona Lum, Monmouth County, New Jersey. This goose is now nineteen years old,



This trick goose is nineteen years old

hale and hearty, and also noted for the intelligence she has developed. She laid well and carried on her goose-like activities until twelve years old, and since then has been an honorary member of the poultry family of her mistress.

She was raised to maturity in close association with two white kittens, and this white trio were close friends during the kittenhood and cathood of her feline associates "until death did them part." When the lady shown in the picture was a small child the goose was her playmate, and was taught to draw a small doll's cart and sleigh, being guided by rein. So attached to her young companion did this goose become that she would never go to the river to swim unless accompanied by her playmate. This goose now seems to be good for a number of additional years of her interesting life.

### Suppressing Rats

By J. T. Raymond

HENRY W. SMITH, a New Hampshire poultry keeper, has found traps the best means of combating rats. He has 500 hens, housed in several buildings; and a dozen steel and spring traps, always set, keep rats out.

Mr. Smith adopted traps after first trying poison and then the rifle. Poison was effective, but there was such a stench from the dead rats that Mr. Smith did not consider its use a second time. He tried a small .22-caliber rifle.

The rifle required a lot of time, and at that was ineffectual.

Then he tried traps, and he has had them in constant use since. He put a trap in the chamber of each dry-mash hopper. Next he located the points at which rats entered the pens. This was not difficult, as his houses have dirt floors. At each rat entrance he placed a cylindrical box, six inches square and about three feet long, the ends being open and the top side, as the box was sunk in the ground, removable. In these passageways steel traps were set.

The battery of traps quickly cleaned out the rats. Mr. Smith sees that they are set all the time. He believes he has found a permanent solution for the rat problem.

### Three-Years Egg-Marketing

By Mary M. Allen

OUR farm is located within thirty miles of a large city, and therefore within easy motoring distance. We frequently eat Sunday dinner with friends in the city, and when developing our poultry business we found that our city friends paid about double what we received for "strictly fresh eggs" in our



When an egg trade has been established for delivery directly to consumers, cases holding six cartons each, appropriately printed, give good satisfaction

home market. This hunch led us to interview several city grocerymen who made a leader of fresh eggs. We found that they made only a normal profit.

Following up this investigation, we found the wide margin between the consumers' and producers' price was largely due to the great number of stale and bad eggs marketed, to the cost of candling and sorting eggs, and to breakage. We then concluded to attempt to evolve a plan by which we should not have to pay for marketing our neighbors' bad eggs, and by which we could eliminate most of the middlemen.

We tried to sell direct to the consumer, but found it impractical. It required more time than one engaged in general farming could spare; shipping in small shipments ate up the profits, and the irregularity of orders would sometimes find us oversold and sometimes with a surplus we were obliged to turn over to our local dealer.

We finally hit upon a plan that has been in operation three years and has worked very satisfactorily.

### Dealt with Grocer Three Years

Our hens are kept confined during winter weather in a clean, well-lighted, well-ventilated coop. During spring, summer, and fall they are given free range after 3:30 P. M. They are fed from self-feeders in the coop a regular egg ration, except that no commercial meat scrap is used, sour separated milk being substituted for it.

We visited a grocerymen in the city who made a leader of strictly fresh eggs, and contracted our output for the winter of 1914-15 season at 45 cents a dozen. We paid express charges of 30 cents on each 30 dozen case and a return charge of 10 cents on each empty case. The grocerymen stood all breakage—that is, he settled claims with the express company for same.

In addition to transportation charges, we attached to each case 30 one-dozen size cartons. These cartons with fillers cost just a trifle over 1 1/2 cents each. On the cover of the cartons we had printed this notice:

This carton contains one dozen strictly fresh, non-fertile eggs. These eggs were produced on the farm of —, town of —, Michigan. They are from milk-fed, yarded hens, kept and fed in a sanitary way. No egg in this carton is over four days old.

The use of this carton for any but our eggs is strictly forbidden. Brown & Co., Sole Distributors. We invite you to visit our farm when in our vicinity.

This plan has continued satisfactorily. The only change has been in prices to correspond with increasing expenses. Our contract price for the summer just past, up to August 1st, was 45 cents a dozen. The dealer sells our eggs at an advance of five cents a dozen. He says our high-quality eggs have brought him much trade. He has handled our entire production for three seasons, and has yet to receive a complaint. Our marketing expense is about 2 1/2 cents a dozen.

### A Collapsible Egg Crate

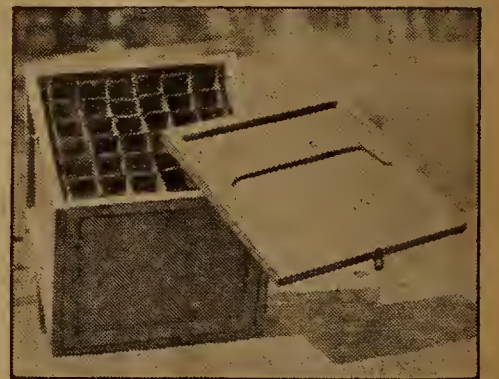
By F. W. Orr

NOT long ago I saw an article in FARM AND FIRESIDE discussing the need of a better package for eggs. I find there is a rapidly growing interest among many poultry keepers in improved forms of crates and other containers in which to market their eggs when shipped by express, parcel post, or motor truck. One of these that has



recently come to my attention is a patented steel-frame crate made in different forms and sizes. One crate is in shape and size like the regulation wooden crate. Another holds the same (30 dozen eggs), but is square instead of oblong. This form has a handle on the top side so that two crates can be carried by the distributor at once. Another form is one that holds 15 dozen eggs, is oblong in shape, and suitable for carrying in a buggy or automobile.

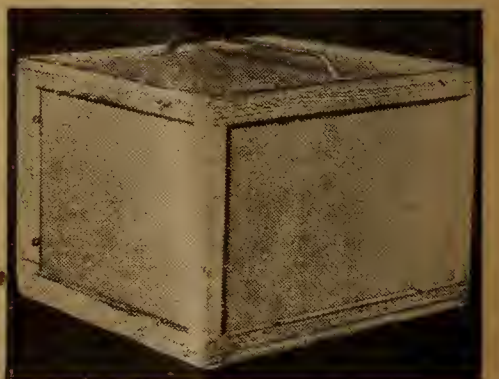
The sides, ends, top, and bottom of these crates are made of extra strong corrugated paper made to stand a pressure of 200 pounds to the square inch. The steel frames and paper are fastened together with wood strips 1/2 x 3/4 inch, half tenoned at the corners. The crates can be shipped in knock-down form as the 3/8-inch diameter bolts holding the



case together can be removed with a screw driver in two minutes.

The manufacturers of these crates say that they can fill them with eggs and drop a package six feet without injuring the eggs or crate.

If the good points recommended for these crates hold true in actual use under varying conditions, this package ought to fill a long-felt want, as the cost



of returning the crates in knock-down form ought to be considerably less than for ordinary crates.

### Poultry "Butter" Valuable

By B. F. W. Thorpe

THESE days a pound of surplus chicken fat is worth a pound of butter or lard for cooking purposes, as it will take the place of lard and butter shortening in many kinds of staple pastry and food dishes. It is by no means uncommon to find a pound of this butter-like surplus fat when a large laying hen of breeds like the Rock, Red, Orpington, and Wyandotte are dressed. This fat can be melted, then canned or bottled while boiling hot, and will keep for months. The owner of the hens thus furnishing shortening should not forget to credit them at the rate of about 30 cents a pound for all of this par-excellent poultry "butter" that they yield.

Just here the champions of the heavier breeds bred for heavy laying now have a better argument than ever before. The lighter breeds as a rule are doing well to furnish fat enough rightly to flavor and enrich their own meat when cooked.





### Beating the Butcher's Game

By C. W. Carpenter

LAST fall I tried conclusions with the high cost of living. We had in our little herd a dry cow, five years old, which had failed to get in calf. She had put on considerable flesh through the summer and in October weighed 900 pounds.

A local butcher looked at her, and after picking faults in her for some time and getting me thoroughly vexed, offered me five cents a pound (\$45), which I refused. I made up a feed of 600 pounds of ground wheat screenings (mostly wild oats), 200 pounds fine corn chop, and 200 pounds wheat shorts. The screenings I had, and I don't know their value. The corn chop cost \$1.75 a hundred; shorts \$1.30.

Of this mixture I fed four pounds a day, the cow running on alfalfa dry meadow, and wheat and oat stubble—unusually good dry pasture.

In sixty days I was offered 5½ cents and she weighed 1,000 pounds, shrunk. I refused this offer and butchered her myself. Sold two front quarters and one hind quarter at 9½ cents, to a small dealer, just what he was paying the packing house, saving him express charges, and I received \$38.75. Sold the hide at 22 cents a pound, or a total of \$13.75. Fifty-two dollars, a hind quarter of prime beef, the heart, tongue, and brains, and \$1.90 worth of internal fat for a \$45 cow, 250 pounds of cheap grain, and two months' pasture.

### The Mule as a Work Animal

THE mule has certain decided advantages as a work animal. For the man who does not know how or is unwilling to give his horses a reasonable amount of care, the mule is the better animal, because he will take better care of himself than will the horse.

The mule naturally is more able to stand hot weather than is the horse. He will slow down when the work becomes hard and the weather hot, whereas a horse will begin to fret, and thus will be even more likely to become overheated. Hence, a mule is safer in the hands of a careless or incompetent driver.

The mule requires less grain and will readily consume more roughage than will a workhorse doing the same amount of work. The mule is less subject to digestive disorders.

Another important consideration is that a mule does not depreciate in value so much from age and hard usage as does a horse.

### Rations for Brood Sows

AN ECONOMICAL and well-balanced ration, as well as plenty of exercise, is essential to the successful wintering of brood sows. When the sows are brought from the pasture they should be started on grain gradually.

Economy is essential in selecting the ration. If the sows are gaining slightly at breeding time, the best results will be obtained. They should continue to

gain until farrowing time, but care must be taken that they do not grow too fat. If the sows are thin at the time of breeding, they are likely to produce small litters of unhealthy pigs.

Corn, alfalfa hay, bran, tankage, and shorts may all be fed to advantage. In order to produce the most economical ration, the bulk of the feed must consist of corn and alfalfa hay. The sows may be allowed free access to the alfalfa, but corn should be fed in limited quantities, sometimes supplemented by shorts or a small amount of tankage. Bran is of value in a ration because of its bulk, and its effect on the digestive system of the sow.

Corn may be fed on the cob, shelled, or ground. The alfalfa hay of the last cutting has much finer stems and there are more leaves. This kind of hay is more palatable, and will be consumed with less loss. Five to ten per cent of tankage will furnish enough protein, depending upon the amount of protein furnished by the other foods. It must be remembered in feeding the brood sows that they are being fed mainly for the growth of the unborn young.

It is important that the brood sows be forced to exercise. This may be accomplished by feeding them at the opposite end of the lot from the house. The sows should be supplied with plenty of fresh water, and be allowed to run in a dry, warm, and well-ventilated house. Remove the chill from water in cold weather.

### Co-operative Shipping

STOCKMEN in an Iowa community have solved the problem which has been particularly distressing to small shippers the country over. Instead of selling their hogs in small lots to the middleman and sharing their profits with him, these farmers organized a co-operative selling society which has been paying dividends at the rate of 10 per cent per year for ten years in addition to conserving the profits usually shared with the shipper and buyer.

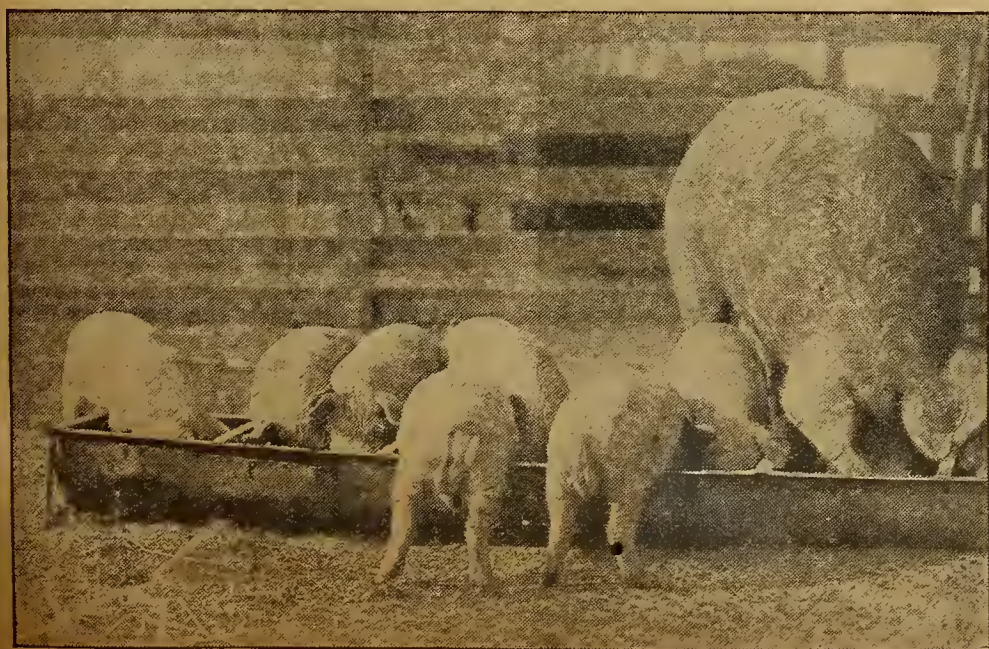
Inasmuch as few farmers in this community carried on stock-raising to any large extent, they had been compelled to sell their hogs to buyers for years. Then a few organized their co-operative society and elected a manager, who attends to the collecting and shipping of hogs in car lots.

Since that time the members have been selling their hogs at a premium over the prices of hog raisers doing business with the buyers. Now almost every farmer in the community belongs to the marketing association, which is one of the most successful organizations of its kind, although it has no constitution and by-laws and seems to be organized on rather loose lines.

Selling to a local buyer has always been unsatisfactory when the farmer has a lot of poorly conditioned hogs to offer. The buyer is compelled to buy at a wide margin in order to protect himself, and this practically eliminates the farmer's profit. The co-operative organization, however, does not buy low and sell high, turning a large amount back to the shipper, but gives the farmer his profits the day the shipment is made, by paying all that it can get for the hogs.

Shares of stock in the association sell at \$10 each. The business is managed by three directors elected by the vote of the members. The directors select a manager for the enterprise, who is paid by the carload for his services.

Buying has been conducted much more economically, as carloads are filled out by the use of the telephone. When the manager is in need of a few head of hogs to complete a car he usually is able to pick up enough stock to complete the shipment within a few hours.



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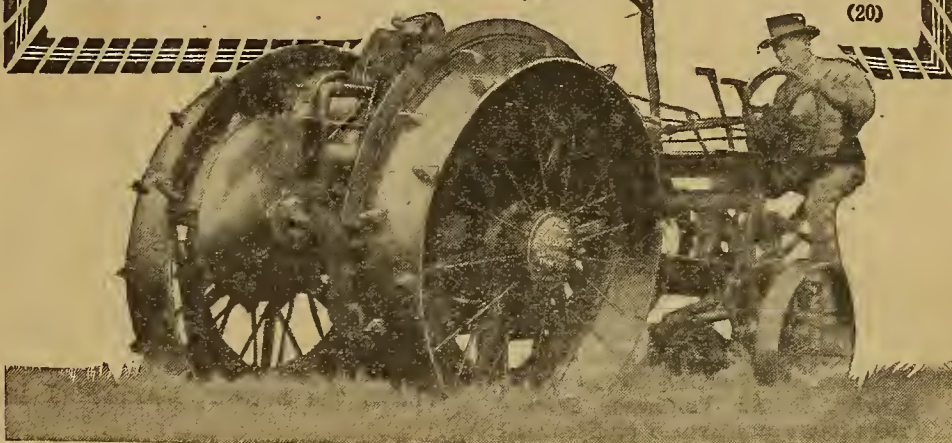
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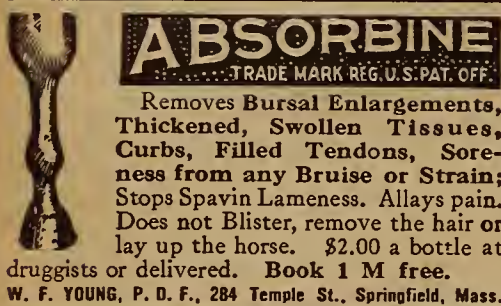
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## Dairying

### National Dairy Meeting

By B. F. W. Thorpe

THE National Dairy Show which will be in session at Columbus, Ohio, October 18th to 27th inclusive, and which will be housed in a new and spacious coliseum, is more important than any similar preceding national dairy meeting. The dairy business never before was in such a critical situation in respect to the need of its future expansion to meet home and foreign requirements. Unfortunately the ability of dairymen to make satisfactory profit from their herds is becoming increasingly difficult as a result of the sharp advances in feed, labor, and every item of expense and equipment connected with the industry.

This year the Dairy Show management will have fuller co-operation of the Federal Department of Agriculture than ever before, in the attempt to energize, encourage, and assist the dairy interests in meeting the world's necessities in dairy products. Mr. Hoover, United States Food Administrator, will address the assembled dairymen to show the dairy industry's part in helping to win the war. The entire program and show of dairy stock promise to be a record-breaker.

### Cream Sticks to Churn

By Chas. E. Richardson

ONE morning I dropped into my neighbor's house, and found him churning in a rather peculiar way. He turned the churn (it was a barrel churn) halfway over, then he would give the bottom a pound with his fist, then swing it over another half-turn and hit the top a blow.

"What's the matter, Frank?" I inquired.

"Oh," he answered, "the engine needs repairs, so I have to churn by hand."

"So I see," I said, "but why so much pounding?"

"Well, it's like this," he explained, "you see the cream seems to stick at the ends of the churn and I have to hit it to jar it and loosen it and make it fall. If I didn't, I'd have to turn this for two or three hours maybe."

"What makes it do that?" I asked.

"I wish I knew," he replied.

"How is the temperature?" I asked.

He told me, which was all right for that time of the year.

And we talked it over trying to solve the trouble, but came to no plausible conclusion. He said that when he used the engine it did not seem to bother so much, but when the engine was not in order, and he separated and churned by hand, he was quite frequently bothered that way.

Finally I took a sample of some cream that he had saved out for the next churning, intending to test it with the Babcock tester the first chance I had. A few days elapsed before I tested it, and in the meantime I asked some other butter makers if they ever had any trouble with the cream sticking at the ends of the churn. I was surprised to find that they had.

When I tested the cream it contained 40 per cent of butterfat. To make a long

story short, I found that at the time that the engine bothered and the churning and separating were done by hand the crank on the separator was turned too fast, thereby causing the cream from his particular make of separator to contain too high a percentage of butterfat. I had him turn the cream screw in the separator until I found by testing it that it produced a 30 per cent cream uniformly.

The last time I saw him he told me that he was not bothered any more by having the cream sticking to the ends of the churn. He added that he used to notice on the sides of the churn, after the butter came, a place as large as a small plate where there was cream that did not come, which would be more or less of a waste; but since churning with thinner cream this was also corrected.

I have since met several other butter makers who have had similar difficulties, as it seems to be a common idea that cream should be thick to make butter. But by changing to a thinner cream they have had better results.

### Why I Sell Cream

By O. A. Choate

I HAVE noticed several articles lately in FARM AND FIRESIDE on the advantages of farm buttermaking which lead me to give my own experiences and conclusions. I have for seven years, here in Illinois, maintained a herd of from 16 to 20 good dairy cows. And in marketing cream and making and selling butter I have found that cream-selling is the more profitable, taking everything into consideration. The cream is shipped by rail direct to the creamery, which is located 22 miles from my farm.

I use the regular five-gallon shipping cans, which are immediately returned to me. I have shipped many gallons of cream in this way and have never had cause to complain of not receiving satisfactory returns. When cream is sold instead of being made into butter at home there is a saving in time and labor.

Cream is easily and quickly prepared for the market—simply emptied into the can, and sold to the cream buyer or shipped direct. The check for the cream will come within a day or two, or at the end of the week following the delivery of the cream at the railway station.

There is a big demand for any quantity of good cream at all times of the year. All that is necessary to do in marketing cream is to run the milk through the separator, cool the cream, pour it into the delivery can, attach a tag to the can if the cream is shipped by rail, and deliver it at the railway station. I deliver my cream three times a week during the summer, and twice a week in winter.

On the other hand, if the cream is converted into butter at home the cream must be ripened and held at the proper temperature until ready to churn, which is not an easy matter on the average farm in either summer or winter. After the cream is ripened to the proper degree, there is the laborious job of churning it into butter. On the farm where only a small amount of butter is made the farm wife generally does the churning, and usually she must do it in the old-fashioned way, which is certainly no easy task.

And when the churning process is finished, the butter must be worked, salted, molded, cooled, and wrapped for the market. When the butter is ready to sell, there is the risk to run in getting a satisfactory price for it. It may be of poor quality, for it is a fact that some people are unable to make first-class butter, which is the only kind that brings the top-notch price. Even if it is first-class butter it will generally sell for less than the amount of cream required to make it will bring.

## Thirty Years' Dairy Success

By H. L. McGhee

THIS is a true story of two dairymen, one a success and the other a failure. Both live here in a hilly section of Jackson County, Ohio, where a man must use all methods that are up-to-date in order to make farming profitable. The unsuccessful man lived on a farm adjoining our own.

He had never had any experience in the dairy business, and had to begin to learn from the bottom up. He rented a 240-acre farm for \$150 a year and stocked it with eight Jersey cows and a few calves. He considered the dairy business simple enough to run, without any study or outside help.

He bought a cream separator, but never learned to use it correctly. His cows were fairly good grade cows, but he did not try to improve his herd.

Let us spend a day with him in winter. First he would go to the barn and clean the manure from behind the cows. But he never cleaned the cows' hips or udders or curried any part of them. Just before milking time, the cows received some cut corn fodder or hay and about half a gallon of wheat bran mixed with water to make a thin slop. Not a very good feed for economic milk production, is it? There were no regular milking hours.

### Ice Water in Zero Weather

After milking, the cows were turned out regardless of the weather. It made no difference how cold, rainy, or snowy it was. And if he did not forget it he chopped a hole in the ice of a small stream so the cows could drink. No milk records were kept. Now we will spend a day with him in summer.

The methods were about the same as described, except that his son took the cows to pasture, using a dog to drive them by biting at the cows' heels. At the end of five years of this kind of dairying, the man I have described had enough. He sold off his stock, and when he took an inventory of his assets was poorer than when he started.

I am perhaps better able to tell about the man who was a success, because I spent the past winter on his farm and was in the barn every day. Though he owned his farm, he had no capital to stock it with. So he borrowed \$3,000 with which to buy cows and to carry him along until he was on a paying basis. He selected good grade cows, had a good stable, and took the best of care of his herd.

His farm comprised only 80 acres. At first he did not understand the principle of feeding to any great extent. But he studied rations and the care of live stock until he had a clear understanding of what he was doing. He also bought a separator and learned to use it correctly. One of his first steps after he was well started was to buy a registered bull whose dam had a good production record. He became convinced that a silo was a good thing, and bought one as soon as he felt able to do so.

### Cows Treated Like Queens

Now let us spend a day in his barn in the winter of 1916-17: As he steps into the barn and goes down the line of cows to begin cleaning them and the stable, he has a good word and a gentle pat for each one. After cleaning the stable and the cows' flanks and udders, he gives each cow a gallon bucket full of silage to whet her appetite and keep her busy until it comes her turn to be milked. Then they are fed a ration of one quart of a mixture of four parts middlings to one part oil meal, one quart of cottonseed meal, a gallon of wheat bran and 30 pounds of silage. This is the standard ration for a cow giving 18 quarts of milk daily. The ration is varied in proportion to the yield.

After each cow is milked, the amount is weighed and entered in the milk record book. As soon as milking is over, the cows are turned out if the weather is favorable, and are fed hay. But if it is very cold, cloudy, or stormy, the cows receive their hay in the barn. They are given pure water, and each cow has enough to satisfy her.

This man never keeps more than seven cows, as he considers that number as many as one man can properly care for. But they are good cows. By grading up his herd he has made them give 6,990 pounds of milk per cow. This was the figure for 1916, and represents the average production of the herd of seven. The income is about \$150 per cow.

Now spend a day with him in summer. In taking them to pasture, he goes ahead of them. As he opens the gate he calls to them and they follow him to the pasture. In the pasture there is plenty of water and shade besides an abundance of good grass. He has paid off his debt of \$3,000, has a fine home and farm, and can retire at any time he wishes.

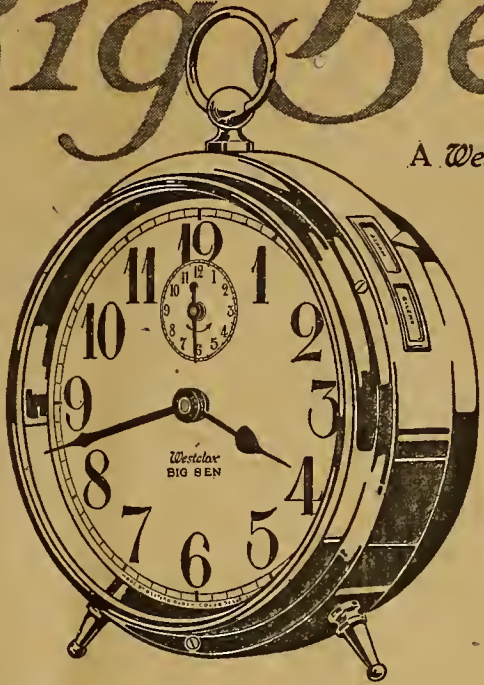


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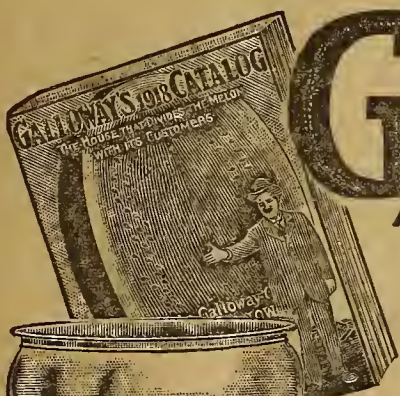
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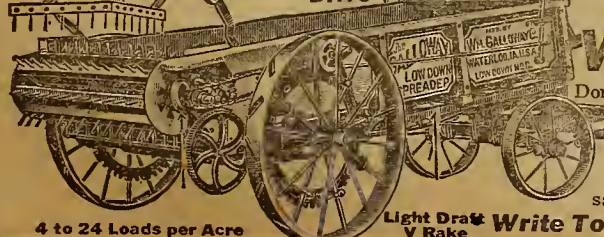
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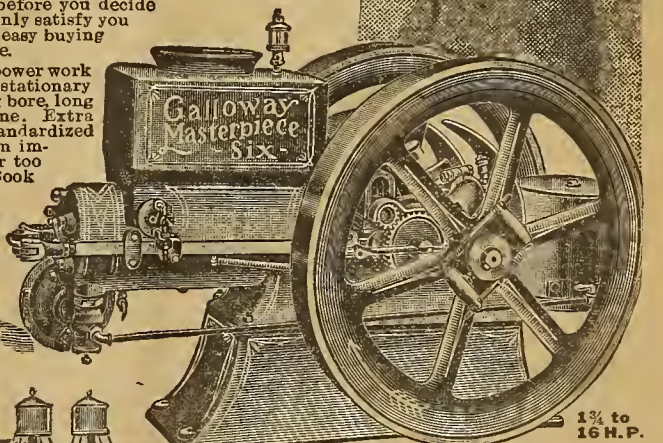
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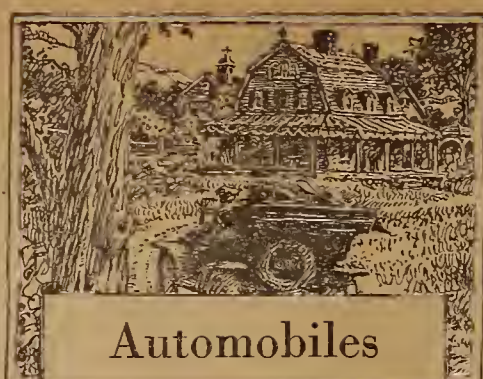
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## Automobiles

### Order Repairs Accurately

By W. V. Relma

A GREAT many auto owners are disappointed as the result of ordering repair parts carelessly. As with any piece of machinery, certain parts have to be replaced from time to time and it becomes necessary to order new parts from the factory.

A friend of mine, owning a standard make of car, broke a rear axle. He borrowed a repair-part book from a neighbor who owned a similar car, and wired the factory to send him one X2347, the number of the part in the book. The part arrived promptly C. O. D. He paid the charges and cheerfully took it home to put it on. Then he discovered that it did not fit.

He naturally assumed that the factory had made a mistake. An investigation disclosed the fact that his neighbor's car was a little later model, and that, while the picture in the book appeared the same, there had been a change made in the later model which absolutely prevented his using the piece sent him. So he sent the piece back to the factory for credit, and ordered the piece to fit his car, giving factory serial number and style of car as well as the year when made.

While factories are not infallible about the handling of repair parts, the majority of them give close attention to

keeps below the boiling point the use of a fan belt is not essential. But if the car is used for a variety of purposes requiring frequent long trips or hard pulling through mud, sand, or snow, there are few motors but what will overheat unless a fan is used.

The better plan is to continue the use of the fan belt and during the winter months regulate the temperature of the engine by means of a hood and radiator cover. This will take care of all requirements.

Short service from fan belts is due in most cases either to having the belt too tight, allowing it to become saturated with grease through carelessness in keeping the space below the lower pulley clean, or to the use of cheap, low-grade belts. A good fan belt will seldom need replacing oftener than every 5,000 miles the car is driven.

### Paper Prevents Slipping

By Annelu Burns

THE very simple expedient of throwing crumpled newspapers under slipping wheels has often brought me out of seemingly hopeless places, especially if trying to turn where the back wheels are obliged to go down into a muddy ditch. It is very easy always to carry paper in the door pockets of your car, and opportunities to try this experiment will not be wanting.

Burlap sacks are more substantial and therefore better, but are not as easily secured when you are away from home.

### Farmers' Cars

By J. L. Justice

THE picture shown below was taken at our county fair here in Cass County, Indiana. The great majority of the cars shown belong to farmers who came to the fair grounds in the morning with their lunch baskets filled, and prepared to stay all day. Some of the cars were driven by gray-haired and



This is the way the farmers in Cass County, Indiana, attend the county fair. There are nearly 400 cars in the picture

the details of this business and most of the mistakes are made by the owners.

Blunders are sometimes made also in the similarity of parts or a right and left part of the same kind. Every owner ought to preserve carefully the repair-parts book that belongs to the car, and order needed parts by the factory number, giving serial number of the machine and also style and year. Some factories make a difference in the same parts when used upon a touring car and a roadster.

The owner's name and address should be very plainly written. There may be a John Hayes living in Columbus, Georgia, as well as in Columbus, Ohio.

### Fan-Belt Questions

By Carlton Fisher

A CAR OWNER who says that his radiator seldom becomes very hot wishes to know whether he would invite trouble if he left the fan belt off during the winter months. "How long should a fan belt last?" is another question prompted by the fact that the average service he gets from his fan belts is about four months.

Using a car without a fan belt is largely a matter of judgment, and the continuance of such a practice should depend on the behavior of the motor and cooling system. A farmer of my acquaintance who lived seven miles from town, and whose driving is limited mostly to trips to and from that town, removes the fan belt from his car in the late fall and seldom replaces it before the following June.

As long as the water in the radiator

gray-bearded farmers; others by their sons, daughters, or wives.

At the fair they gain a wider acquaintance with the county's assets, exchange views on topics relating to the fair exhibits, and have a general social time, staying as late as they please, since they know the return trip will be quickly made in their "six" or "eight," or perhaps a humble but reliable "four."

### Position of Tire Carrier

By M. R. Buckley

WHETHER to install a rear tire carrier or a running-board carrier is a problem troubling a Wisconsin car owner whose car has neither. A rear carrier is usually more difficult to install; tires carried on it become dirtier, and it interferes somewhat with the care and cleaning of the back of the car. On the other hand, a rear tire carrier is out of the way and out of sight and is equally convenient when replacing a tire on either side of the car.

Tires carried on the left-hand running board (generally the only place that does not interfere with the doors) keep cleaner and leave the rear of the car free for a trunk rack or similar carrying device, nor are they subject to the gases of the exhaust. Thus the advantages are about equal. The rear tire carrier is perhaps slightly preferred, but when it is used the spare tire should always be protected by a good cover.

USE the spare tire occasionally to keep it soft and pliable. And remember that an additional extra tube is wise preparedness for long trips.

### Self-Portable Engines

By Raymond Olney

FARMERS who have attempted to build their own tractors, using a stationary gas engine for the motor and a conglomeration of parts picked up here and there about the farm and near-by junk piles, can be numbered by the thousands. Old, worn-out binders and mowers are a very common source for many of the more essential parts.

Personally I do not blame any farm boy with a liking for mechanics for wanting to build a tractor, and many fathers will be wise in allowing their sons this interesting and instructive experience, provided the cost is not prohibitive.

But it is a dollars-and-cents proposition for the most part. The question each farmer should ask himself is, "Will it be a profitable investment for me?"

A certain young Kansas farmer who has built home-made tractors of his own, and who has had the opportunity of studying many machines got up by other farmers, has learned that it does not pay, especially if they are to be used for tractive work in the field.

It stands to reason that the farmer cannot build a real tractor as cheaply or as well as a manufacturer with a completely equipped factory.

Where builders of home-made tractors "fall down" the hardest is in trying to build something out of worn-out materials. A tractor built in this way will not stand up under the wear and tear of field work, for which purpose it is needed the most on the farm.

The tractor idea has a strong hold on a large proportion of the farmers of this country. To many who already own stationary gasoline engines the building of a home-made tractor seems comparatively easy. The would-be builder searches the neighborhood junk piles for gears, shafting, sprockets, drive wheels, and what not.

He fails to give due consideration to the design, which is probably more important, at least equally so, than in any other machine used on the farm. He likewise does not recognize the fact that quality of materials and mechanical construction are practically as important as design.

The fact is that there are many of the essentials of a successful tractor that the farmer who attempts to build one himself out of "a little of everything and not much of anything" is not able to provide.

### Success Depends on Work Required

I do not think, however, that farmers should not build home-made tractors, but I do say that they should not build them with the idea of doing such work with them as plowing, disking, and other heavy field work.

I find that many have equipped their stationary engines with trucks and traction gearing for the self-portable feature alone. The engine is used only for belt work, but being provided with traction gearing it propels itself from one job to another and also hauls the machinery used with it.

The idea of building a home-made tractor in order to have a self-portable power plant is to be commended in a great many cases. If a large part of the belt work is not centered at any one place, but requires considerable moving of the engine from one job to another, there is a decided advantage in being able to move it by means of its own power, without the inconvenience of hitching up a team.

It may then be a profitable thing for the farmer to build his own tractor. Since it will be used comparatively little as a tractor, it is not so essential to employ high-grade materials and workmanship in its construction.

Such a tractor need not be expensive to build. Many farmers will build them during the winter months when they have plenty of time. If one is fairly handy with tools he will probably have little difficulty in putting together a machine that will be sufficiently satisfactory as a self-portable power plant.

Where the would-be builders make their mistake is in believing that with a few dollars and a stationary engine they can build something that will serve their purpose practically as well as a factory-built machine for which they would have to pay several hundred dollars.

The man who gets this idea is doomed to disappointment. He might just as well attempt making his own false teeth as to try to build a tractor that would do all kinds of farm work successfully and economically. The hundreds of dollars put into a well-designed, durable, tractor is by far the best investment.

THE squeak of springs is a warning that the leaves are not sliding freely over each other. Special spring oil or graphite will insure effective spring lubrication.



## Sea Power and the Submarine

[CONTINUED FROM PAGE 3]

seeking to ruin Britain, and in the end France was bled white by victories—and Frenchmen abandoned Napoleon for peace.

Now, no one can mistake the fact that history is already repeating itself. To-day Germany cannot make peace, cannot rest from her labors or harvest the fruits of her early victories, because there is no power in her hands to compel, to persuade, the Allies to make peace. She has provinces of France, of Russia—these she might evacuate; she has the resources to purchase peace from her land foes, but what shall she offer Britain? What shall she offer the United States?

Above all, what shall she offer the only nation which has actually gained by the present war, for Britain has already swept up German colonies and abolished her only rival in the sea-borne commerce of the world. Some day Germany must return to peace, but she cannot return to normal life while Hamburg and Bremen, her seaports, are sealed up, while the seas are closed to her for that export and import trade by which, as an industrial nation, she must live.

## German Human Losses Staggering

The war has cost her three casualties to one British, and she has only a slightly larger white population than Britain and the British colonies. In money it is costing Germany and Great Britain about dollar for dollar, but Germany has no such accumulation of capital as Britain. And some portion of British trade and commerce is still going forward.

A war of exhaustion is terribly expensive for Great Britain, but in men Great Britain is now better off because of German losses; in money she is even more advantageously placed. She is living on her accumulated capital—her past; Germany is mortgaging her future.

In human capital Germany's loss has already been staggering; Britain's relatively slight. And, then, British capacity for recovery is vastly greater than Germany's.

But the present problems are of more importance to Germany than any future contingency. As it is, she cannot obtain peace on terms that in the smallest degree recognize her great victories and conquests, because she has failed to take a single foot of British territory, and has so far failed to find any weapon which would disturb British safety or menace British imports.

Britain has won practically all of Germany's colonies, and now holds the gate to Germany, the sea gate by which Germany's manufactures must reach the world, by which Germany's food and raw material must enter. How shall Germany persuade the British to permit her to use the gate? If she cannot persuade them by force, she must meet British terms.

## Allied Blockade Spells German Defeat

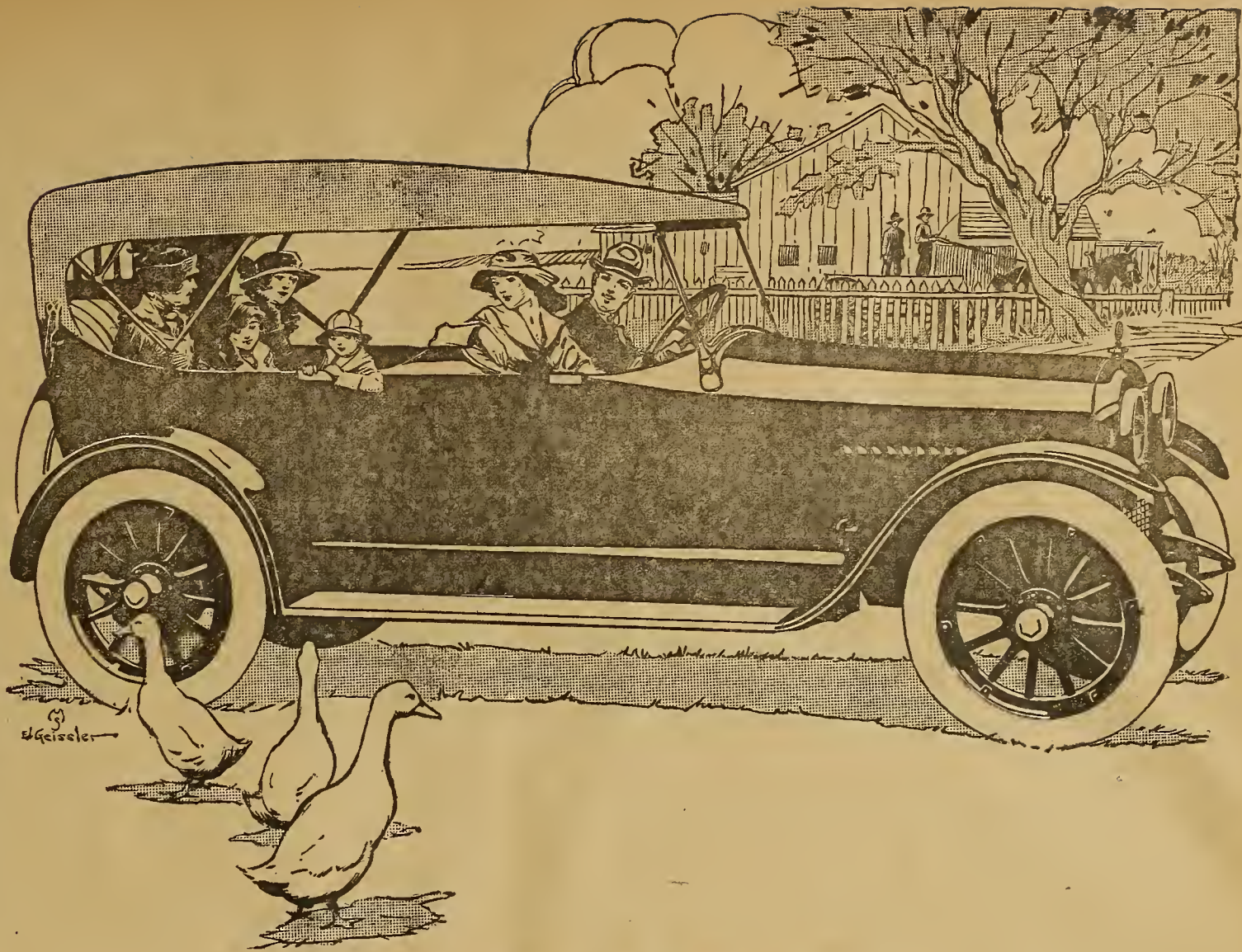
These terms have been forecast, the first provision in any British treaty of peace must be the restoration by Germany of all the provinces and regions conquered. She must give up the profits of the war and bear the terrible burdens incident to her losses of men and to her accumulation of debt, not merely without reward, but with the actual loss of her colonies.

Such a treaty of peace is for Germany, as she now stands, an unthinkable bargain.

But how shall she better her position? The truth is that the British naval power is becoming every day a larger and larger factor in the war, and it is more and more contributing to the discomfort of Germany and to her possible defeat in the future, when she has exhausted her resources, always granting that she does not find some way to deal with Britain.

And it should be recognized that while the blockade has not won the war for the enemies of Germany, and while Germany has not been defeated on land, the necessity to find a way to abolish the embargo upon all her trade is growing each week, and unless the way can be found Germany will have ultimately to meet terms.

This time has not come, but it is time to recognize how important has become the influence of sea power, how, day by day, there is more closely established the parallel between the present and the Napoleonic wars, and how certain it is that unless Germany can find a way—and all her efforts have failed so far—to break the blockade she will lose the war despite her successes on land. This was the history of Louis XIV, of Napoleon, and of the Southern Confederacy.



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IT IS a matter of record in fifteen of the principal cities that Paige used cars bring a higher price—proportionate to first cost—than any other American automobiles.

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That, we repeat, is the final test of quality.

And in this test the Paige stands supreme. After fifteen, twenty-five, thirty-

five thousand miles of service, there is still enough GOODNESS left in a Paige to command the record price in used car markets.

Frankly, now, is there anything that we could tell you about our product that would be more convincing? Could you have any better guarantee that a Paige is all that we claim it to be—all that you could possibly expect it to be?

As to the selection of a model, this is simply a matter of your own personal requirements.

In our line you will find a seven-passenger car, a five-passenger car and two roadsters. You, alone, can make a choice, but please remember that you can't make a mistake. For all of these models are Paiges—blood brothers of the same strain. That is the really important thing.

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Paige prices range from \$1330 to \$3230. There are sixteen distinct body styles including Limousines, Town Cars, Sedans and Coupes. No handsomer line of enclosed vehicles can be found on the market.

PAIGE-DETROIT MOTOR CAR COMPANY

238 McKinstry Avenue, Detroit, Michigan



Once they began this story the editors refused to work until they had finished it, and we simply couldn't pry the office boy away from it

# Runaway Julietta

## A Little Girl Sells a Duck and Takes a Train

By ARTHUR HENRY GOODEN

### PART I

THE valley road reached out before her, hot, dusty, beckoning. She walked briskly in the wagon ruts, her bare brown toes ruffling the soft yellow dust. Her age was ten, or so she reckoned it. Her single nondescript garment stopped short at the knees, exposing slim brown legs. A faded sunbonnet ended at a tangle of chestnut hair, half hiding a face that was glowingly alive. In her arms was a grain sack, bulging oddly and emitting furtive quacks at intervals. So heavy was it that at length she came to rest under a cottonwood, with a great sigh of relief.

In the distance a cloud of yellow dust hovered over the road, drew nearer, and materialized into the outfit of a Chinese vegetable vender. At the cottonwood the horse stopped of its own accord, and the wrinkled Celestial peered out with an affable "Hello!"

"Hello!" returned the girl.

"You go town?"

She nodded mutely.

"Heap long way."

"Three miles more. 'Tisn't far—only it's heavy."

She indicated the sack, which the yellow one regarded with a knowing glance.

"What you got? Chicken?"

"Duck."

"Duck!" The Chinaman's tone took on life. "You likee sell?"

Again she nodded. The vender climbed from his seat and peered within the sack.

"Twenty-five cent," he asserted confidently. She shook her head.

"No?"

The Celestial drew forth the duck with practiced fingers.

"Heap fat. How much?"

"Fifty cents," said the girl unsmilingly. "Nice duck. Young."

"No good." The vender turned to his wagon, then looked again at the duck.

"How much?"

"Fifty cents."

A moment of hesitation, and then surrender.

"All right." Producing a long clinking leather pouch, he selected a coin. "Heap smart girl," he grinned. "Welly smart. Likee lide town?"

"Yes." The girl smiled for the first time, and without further remark climbed up to the wagon seat. The Celestial clucked to his horse and they moved forward. The girl sat stiffly, the fifty cents clutched in her little hand, her eyes inscrutable. Only by her quickened breathing did she betray excitement.

Another dust cloud rose behind them. It traveled fast, trailing in the still air behind a solitary horseman; presently the girl's eyes narrowed as she glanced back, and she bit her lip as the rider came up. He was a youth of fourteen, lithe, dark-haired, eager of eye.

"Lizzie!" he cried, ranging up alongside the wagon.

"I—" "Lizzie!" she broke in vehemently. "Don't you call me that!"

The boy grinned.

"Where you goin'?"

"La Vina," she returned casually.

"What? But why didn't you—"

"I don't want Auntie to know."

"Oh!" He grinned again. "Say, get up behind me. I'll take you to town and back."

She considered this proposal.

"Honest? You won't tell her, Clay?"

"Honest I won't," promised Clay.

She opened her hand, disclosing the coin.

"I've sold Whitey. Auntie was goin' to kill him for Sunday dinner, but he's mine. You gave him to me, and I raised him!" Her voice swelled into an indignant wail.

"Sure he's yours!" cried the boy hotly.

For a moment the girl's lips trembled, then suddenly her face broke into a smile. She turned to the Chinaman, gravely shook hands, and scrambled down. In another moment she was astride the boy's horse, her arms clasping his waist.

"Oh, Clay," she said in his ear, "you're always so nice to me!"

And so they rode down the valley together, the dust like a dun cloud trailing behind them, and the purple-brown mountains that hedged the San Joaquin shot up the sky like spears, glorious in the morning sun.

It is extremely likely that Mrs. Wurrell—who was distinctly the better half of the Wurrell paterfamilias—would have evaded the responsibility of the

orphan niece had it not been for the Dare ranch. It was just like Larry Dare, she complained, to break his neck and leave her a motherless babe; so she forthwith accepted the ranch as balm in Gilead, called the girl Lizzie out of sheer ugliness, and taught her husband how to prosper.

It was unfortunate for Lizzie that she had inherited the fair coloring, the deep blue eyes, the sunny, unconcerned and inscrutable temperament of Larry Dare. For these things her aunt punished her the more, and gave her to wear the cast-off garments of her cousin Maggie. Lizzie was outwardly submissive, but now the great day had come to hand, the day when she was to stand forth before all men and recite the "Wreck of the Hesperus."

Hence, when Mrs. Wurrell proposed to sacrifice Whitey upon a gastronomic altar, the first gun of rebellion roared. Lizzie had long since determined to get fifty cents for Whitey, and now knew exactly what she wanted to do with that fifty cents. The curious thing about Lizzie was that she always knew her own mind.

So she went to La Vina with Clay Thorpe, and came home again, and kept her own counsel when Maggie was being dressed for the afternoon's entertainment at the schoolhouse. Then Lizzie disappeared, and was no more seen by Mrs. Wurrell. As a

upon her she passed through the great white-headed stalks of corn and took the road to La Vina.

Ten is an age too tender for facing the mysteries that lie beyond the hills, but Lizzie did not falter. Regret and sorrow crept into her heart, and loneliness. She wanted to say good-by to the cows and horses and the black colt in the pasture, and to Clay Thorpe, and to Fan the puppy; but she did not falter. A lump came into her throat, and choked and hurt strangely.

SUDDENLY she heard the pounding of a galloping horse. She turned and saw Clay tearing up the road, his lean-necked roan in a lather. She paused, waiting in the shade of the cottonwood.

"Dare!" exclaimed the boy, flinging from the saddle. His voice was troubled as he met her half-defiant eyes. "Dare, where are you going? I saw you running through the corn, then I lost you."

The lump in her throat grew bigger, her lips trembled, she turned from him, her slim, brown hands gripping the old rail fence as though strengthening herself against the sympathy and love in Clay's voice—Clay Thorpe, her one stanch friend, her little knight.

He looked at her, anxiety in his clear gray eyes. "Dare," he stammered. He drew himself up onto the rail fence and looked down at her, his legs swinging idly.

"I'm running away," she gulped. "I'll never go back. Auntie hates me—and—and I'll never go back."

"I don't—don't hate you," said the boy slowly. Color showed under his tan, but he went on sturdily. "When I'm big I'm going to marry you, and we'll have the finest ranch round."

She looked up at him swiftly, then shook her head.

"I'm running away," she reiterated, "forever and ever, and some day when I'm big I'm going to do big things—the way men do big things." She looked down at the two silver dollars in her hot little palm. "And you must never, never tell."

Again the lump rose in her throat as she saw his hurt, bewildered eyes. She turned and began to run. He was after her like a flash.

"Dare!"

She faced him, and as he came up her arms went round his neck.

"Really and truly I'm running away, Clay; and, please, you mustn't come with me—or say I mustn't." She turned and sped away again, her brown feet ruffling the yellow dust into little trailing clouds. And, young as he was, Clay Thorpe recognized the finality in her voice and in that good-by pressure of her slim arms. He stood by his horse, watching until the little figure had vanished into the shimmering distance, then slowly rode home.

"I won't tell her folks," he loyally resolved. "I won't tell anybody at all."

The sun was dropping behind the snow-capped Sierras. Far down the valley a cloud of smoke drifted. By this sign the little runaway knew that the Transcontinental would soon pause for a panting moment at the La Vina station. Lizzie stared at the smoke as the immensity of an idea seized her. Would two dollars take her to Los Angeles?

That was her first lesson in the usefulness of the dollar. She never forgot it.

She sedately walked to the Pullmans. A grinning black man, who stared curiously at her bare brown legs and hatless head, helped her mount the vestibule steps; her air of confident poise was oddly convincing. Possibly the porter thought she belonged to the lady in rustling silk who preceded her, or to the stout drummer who followed on her bare heels.

She followed the lady in silk down the aisle of the Pullman, and dropped into an empty seat. The stout drummer did not sit down at once; he produced a little card and examined it, then stared at a number far above Lizzie's head, gave Lizzie a quizzical glance, smiled genially, and seated himself beside her.

The car began to move with a gentle swaying motion very pleasant to the tired body beside the window; the speed increased, telegraph poles became a blur, and almost insensibly Lizzie Dare relaxed in the cushions and closed her eyes to the crooning lullaby of the wheels. The stout man rang for the porter, whispered, and presently a pillow was carefully inserted beneath the thick chestnut curls.

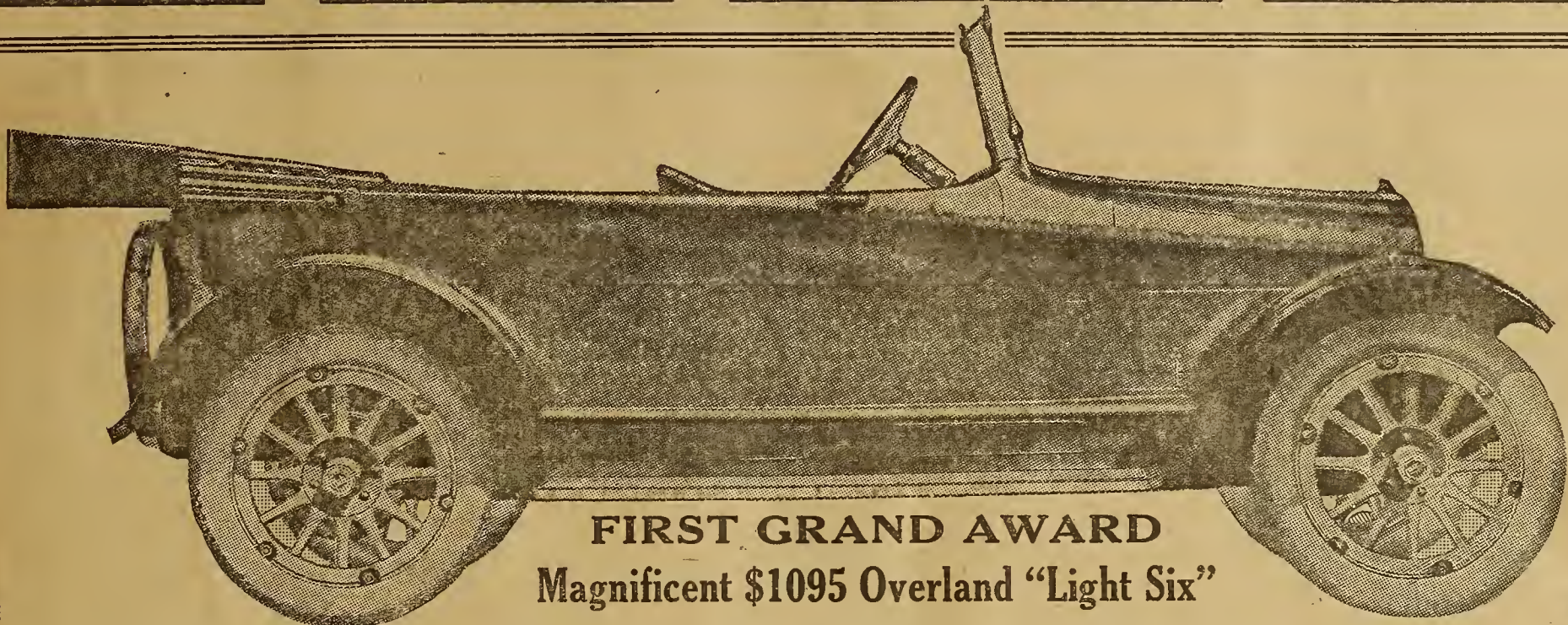
The thunderous roar of the passage across a long bridge awakened her. For a moment she blinked at the lights, then remembered everything. She was on the train! Beside her was the [CONTINUED ON PAGE 25]



"Fifty cents," said the girl unsmilingly. "Nice duck. Young"



# Farm and Fireside Will Give Away FOUR AUTOS WITHOUT COST!



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**Magnificent \$1095 Overland "Light Six"**

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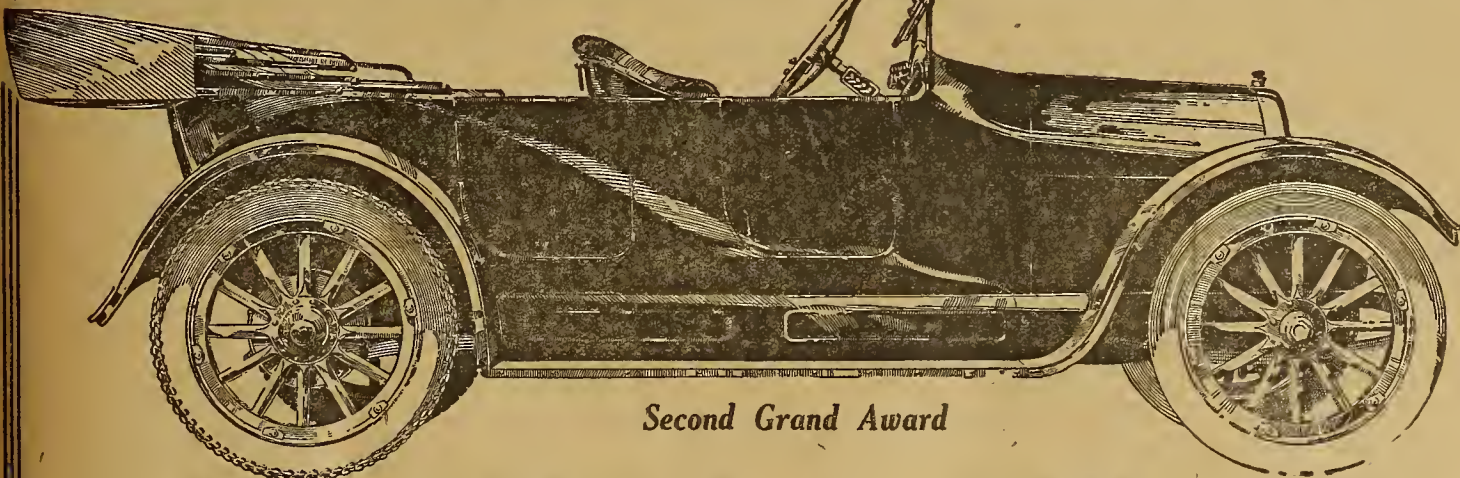
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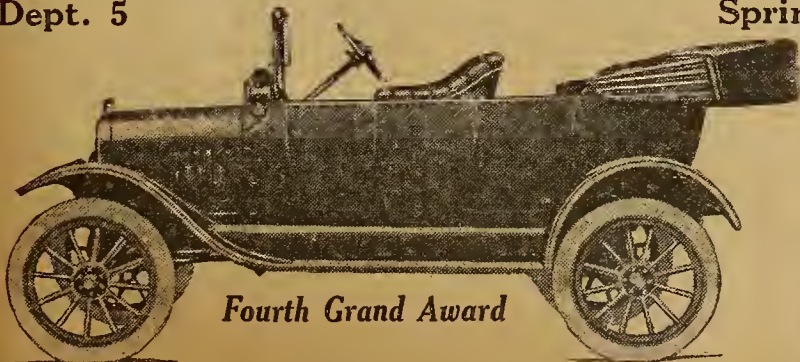
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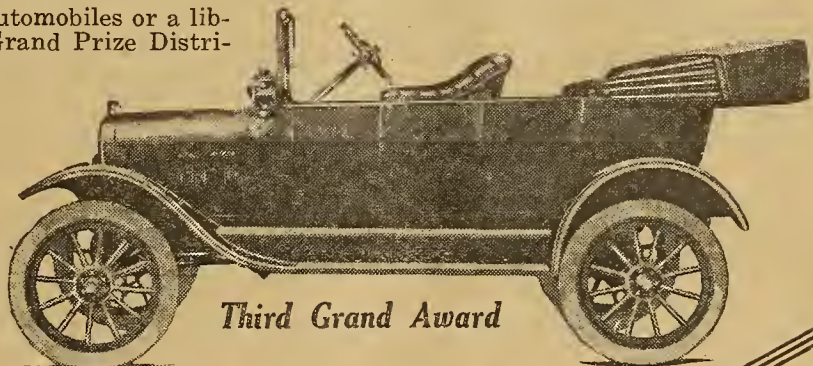


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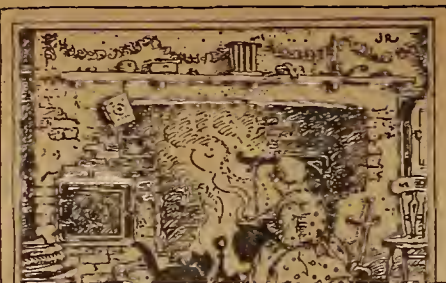
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## Housewife's Club

### The Clean Plate

By Ruth M. Boyle

"PLEASE don't eliminate the left-overs altogether. My husband and boys like some of my left-over dishes better than the originals."

Thus reads a letter I have just received from a reader of FARM AND FIRESIDE. From what she says and from the examples of the dishes she makes from those left-overs, it is very easy to see that she is one of those rare cooks who waste nothing that good cooking can make eatable. For her a little extra cereal or a few slices of toast too many are not a waste: they are an opportunity.

But the moral of the slogan "Eliminate the left-overs" is this: Nothing should be left over that cannot be used, and remember that left-over dishes which are most costly after the necessary additions are made to transform them into palatable foods than entirely new dishes would be are not an economy. The cook who can use the extra servings to good advantage need not worry about cooking a little too much, but the less resourceful housewife will do well to count heads and measure carefully.

However, the "clean plate" recommended by the Food Administration at Washington is a matter which cannot be argued. "I hate to be so skimpy about my serving that I cannot tell whether my children are satisfied or not," reads a letter from a person who preaches and practices generosity. This is the old American attitude. But look at it in this light: The generosity you show in serving your children and your guests more than they want is depriving other human beings somewhere in the world of food which is actually necessary for their existence.

Carelessness about butter is a common American sin against thrift. In nearly every family some member has the habit of taking huge helpings of butter which he or she does not use. The remedy is simple. Cut slices off the oblong pound of butter a quarter of an inch thick, and cut each slice into four pieces. When the butter is served, let each member of the family take one small piece at a time. It sounds like a small economy, but it is one which careful city housewives have practiced for years, and now that we are asked especially to conserve butter, country women will do well to follow their example.

### Try Bread Crumbs

FOR school fairs or for candy sales the girls always wish to put their home-made candy into boxes. Oftentimes the empty candy boxes one has on hand are slightly finger-printed. Try rubbing the lid of the box with bread crumbs. It will save buying a quantity of art gum, and the result will be quite as good.

### Spinach Greens for Autumn

By John T. Timmons

TO ASSIST in reducing the cost of living, and at the same time provide a delicious food for the family, sow the seed of spinach in October, for late autumn and early winter use.

Prepare the beds as you would in early spring, and sow the seed rather thinly, and as the weather turns cool set boards round the bed and scatter a little brush over the bed, and then throw some salted hay over the brush, allowing a little of the hay to drop to the bed and lay among the plants.

A heavier protection will damage the growth. This is why a number have failed in having spinach at this season. They overdid the matter in the way of protection.

### Pretty Tatted Edge

By Fern Lawrence

THIS tatting is to be made with one shuttle.

**FIRST RING**—Four double stitches, one picot, four double stitches, one picot, four double stitches, one picot, four double stitches, draw up in a ring and turn, leaving one-fourth inch of thread.

**SECOND RING**—Six double stitches, one picot, six double stitches, draw up in a ring and turn, leaving one-fourth inch of thread.

**THIRD RING**—Four double stitches. Join to first ring made. Four double stitches, one picot, four double stitches, one picot, four double stitches, draw up in a ring and turn, leaving one-fourth inch of thread.

**FOURTH RING**—Four double stitches, join to ring containing twelve doubles, two double stitches, one picot, two double stitches, one picot, two double stitches, one picot, two double stitches, one picot, two double stitches, one picot, four double stitches. Draw up in a ring, turn, leaving one-fourth inch of thread.



## Herbert Hoover Writes to You

MY COUNTRYWOMEN: I ask your help.

The President has laid upon me, and has asked me to assume, great responsibility in the conservation of the food supplies of our country. It would be an unbearable burden but for two reasons:

One is, I am sure every loyal American will at this time undertake unhesitatingly and wholeheartedly whatever service is required of him.

The other reason is—the American woman. I believe you have only to understand the food needs of this nation, of the Allies, and in fact of the entire world, in order to enlist your immediate and intelligent support.

I realize full well that 70 per cent of our households are conducted with thrift and without waste, but even in these we need to secure the use of equally good food in substitution for those commodities which are of so concentrated a character that they can be shipped over the seas in these times of short shipping.

Among the 30 per cent it is true enough that we have deserved the reputation of the most wasteful housekeeping in the world, and the time has come to turn our faces squarely in the opposite direction and make our country a model of economical management throughout.

Indeed, if our American ideal of a square deal is right, we can do no less. For three years now the people of the allied countries have borne the burden of this struggle for life and liberty, and are bearing it with pain and privation. There are millions of women in Belgium and northern France to-day who for three years have heard no word of their husbands, their sons, or their brothers, who go about their daily tasks provided with the most meager allowance of food for their children, with a smile on their lips.

It is for women such as these, for soldiers gallant beyond description, for little children of Europe, that you now face the immediate duty of taking up arms, as it were, in your households. You are a great army drafted by conscience into what is now the most urgent activity of the war—that of increasing and conserving the food supply.

Conditions which have brought about a world shortage of food have placed upon the shoulders of you, the women of America, to a great degree, the responsibility of winning this war, for the wolf is at the door of all the world except our own country, and we have a superabundance.

We are not alone appealing to the women; we are actively organizing, so far as possible without legislation, the men in trade, hotels, restaurants, and in food distribution, hoping not only to eliminate waste, but to moderate the burden of speculation and extortionate profits.

It stands to reason that your first duty is to the members of your family. They must have all the food they require to keep them in good health and capable of performing efficiently their daily tasks. Information for your guidance as to the food needs of the average family will be put in the hands of every earnest woman in America.

In confidence I turn to you so to conduct your affairs, and so to influence the activities of your community, that we may largely pay for the war, as we go along, out of our savings in food and in human production.

With deep gratitude for the earnest support already given me, I am,

Faithfully yours,

Herbert Hoover

**FIFTH RING**—Four double stitches, join to ring before; four double stitches, one picot, four double stitches, one picot, four double stitches, draw up in a ring and turn, leaving one-fourth inch of thread.

**SIXTH RING**—Six double stitches. Join to first picot in largest ring. Six double stitches. Draw up in a ring and turn, leaving one-fourth inch of thread.



**SEVENTH RING**—Four double stitches, join to ring before, four double stitches, one picot, four double stitches, one picot, four double stitches, turn, leaving one-fourth inch of thread.

**THIS STARTS THE SECOND SCALLOP**—Six double stitches, one picot, six double stitches, draw up in a ring, turn, leaving one-fourth inch of thread. Repeat, beginning with the third ring, except that instead of joining to the first ring made, join to the ring before, made the same as the third ring, until you have the required length.

For very thin blouses, dresses, handkerchiefs, and baby clothes, use No. 100 crochet thread.

No. 60 crochet thread, however, makes very pretty trimming for corset covers, combinations, and waists of a little heavier material.

## October Cookery

By Helen A. Lyman

**GINGERED APPLES**—Use five pounds of tart apples, five pounds of light brown sugar, two lemons sliced thin, and one-half pound of preserved ginger cut into thin slices. Put sugar into enameled kettle, with one cupful of cold water, boil up and skim, and put in apples, pared, quartered, and cut in pieces about three-fourths inch. Add one-half teaspoonful of salt, lemons, and ginger, and boil until the apples look clear, yellow, and rich. Pour into pint jars and seal as any preserve.

**PICCALILLI**—One peck of green tomatoes, nine rather large onions, two-thirds cupful of salt, one pepper, three pounds of sugar, four quarts of vinegar, tablespoonful of mustard, cloves, allspice, and cinnamon. Cut tomatoes in pieces, cover with water, and let stand overnight. Draw in the morning, and put through the grinder, also onions and peppers. Put all together and cook for five hours.

**NASTURTIUM PICKLE**—Gather the berries when they are green and tender, and put them in brine for twenty-four hours. Then take them out of the brine, put in a jar and cover with vinegar. To a gallon of nasturtiums put a gill of broken black pepper, and a fourth of that quantity of bruised mace.

**SWEET-PICKLED PRUNES**—Pick over, wash, and soak four pounds of large prunes for twenty-four hours, then steam for twenty minutes. Boil together for ten minutes two pounds of sugar, one pint of vinegar, one ounce of whole cloves and stick cinnamon, and one-fourth ounce of ginger. Add the prunes, simmer very gently until tender, then can and seal.

**APPLES IN BLOOM**—Cook red apples in boiling water until soft. Have the water half surround the apples, and turn often. Remove skins carefully, so that the red color may remain, and arrange on serving dish. To the water add one cupful of sugar, grated rind of one lemon, and juice of one orange; simmer until reduced to one cupful. Cool, and pour over the apples. Serve with cream sauce.

**CREAM SAUCE**—Beat the white of one egg stiff, add the well-beaten yolk of one egg, and gradually add one cupful of powdered sugar. Beat one-half cupful of thick cream and one-fourth cupful of milk until stiff, combine mixture and add one-half teaspoonful of vanilla.

### APPLE CHIPS

Cut eight pounds of sweet apples into small pieces. Don't pare. Add four pounds of sugar and one-fourth pound of ginger. Add the sugar and ginger to the apples, and let stand for twenty-four hours, add four lemons, cut into small pieces, rejecting seeds. Cook slowly three hours. Put in glasses and cover with paraffin.

### Keeping Canned Sausage

IN FALL when we kill hogs I always fry sausage in cakes just the size we use on the table, put them in glass jars, cover with melted lard, screw up tight, and it is ready for use at any time. I have kept it this way as long as a year. There has always been one drawback—it takes so much lard to cover the cakes, and while it was never entirely lost, it was never so nice to use again. Last year I tried a new scheme. I used only the grease that fried out of the cakes as they were cooking, two or three tablespoonfuls to each jar of sausage; after screwing tight I turned the jar upside down to cool. Of course, the jar was perfectly air-tight when the lard cooled and my sausage kept perfectly. I left the jars standing on the tops, as in the warm weather the lard might melt away, and the sausage would spoil.

**SAUSAGES WITH BAKED APPLES**—Core the apples and cut into halves; arrange in the bottom of a square baking tin. Mold sausages into small cakes after seasoning. Place these sausage cakes on top of the apples and bake.



## Runaway Julietta

[CONTINUED FROM PAGE 22]

stout drummer, absorbed in a magazine. Lizzie sat up and peered eagerly at the picture of a young woman, gloriously beautiful, gloriously gowned. A fervent desire swept over the child.

"Hello! Awake?" The stout man beamed down at her. She nodded gravely, pushing back her tumbled curls with one little sun-browned hand. "Well, well! Jiggled right off to dreamland, and back again, eh?"

She nodded again, her eyes appraising, questioning, pondering. This big jolly man with the kindly brown eyes and ready smile was very nice indeed.

"My name's Paul Morrow. What's yours, little girl?"

A flush darkened her cheeks. Her eyes fell, and by chance lighted upon the picture of the beautiful woman. Underneath was a name in big black print. "Julietta! Just Julietta!"

Into the stout man's eyes crept a puzzled expression. Then he glanced at the magazine, and chuckled suddenly.

"Pon my soul! You're a great actress yourself, eh?"

"That's my name," she said firmly.

"Well, Julietta, what do you say to tackling the diner? All right! Come along!"

A TAXICAB sped away from Mrs. Drake's academy in Pasadena, and slipped through the foggy night into Los Angeles. Inside the taxicab sat a young woman who crumpled a yellow telegram in her hand, then smoothed it out and read it again, a smile curving her lips. The message was addressed to Miss Julietta Dare, and read:

Love and congratulations to my little girl on her eighteenth birthday. Home to-day. Alexandria. Dinner. Theater.

UNCLE PAUL.

Twenty minutes later, in the drawing-room of the Alexandria, Paul Morrow was holding her at arm's length. He had not seen her for ten months—the new president of the Truitt Shoe Company was a busy man—and a great deal had happened in that ten months.

He had last seen Julietta with her hair in a thick braid, her skirts about her ankles, girlhood delightfully upon her. She stood before him now a slim, coiffured, gowned woman, and Morrow was shocked. It had not occurred to him that Julietta would grow up. But the swift sadness in his eyes was gone in exultation.

"Pon my soul!" he cried. "I—why, my dear, you're full of surprises! Here you are a real sure-enough woman!"

"Do you remember how we came into town that—that first night?" Morrow's eyes were twinkling now. "How I got you a pair of silk stockings at a pawnshop, and a pair of sample shoes from my bag—"

"And how I said then and there I'd always wear silk stockings because they felt so nice?" She broke in with a chiming laugh. "And how we went to Mrs. Drake's—"

"And how nice you said she was? Do you still think so?"

"Yes, of course I do, Uncle Paul. And you too—aren't you going to kiss me?" Morrow reddened.

"Why—why—pon my soul, Julietta! Of course I am."

They passed into the dining-room. Morrow eyed her gown—she was in blue from hat to slippers—and remembered that first night.

"You like me grown up? Am I so different from the little girl of La Vina?"

"Rather. Eight years have made a heap of difference—just eight years. My dear, close your eyes and lean forward, and don't ask a single question."

Julietta obediently complied.

"Now, look!"

She turned to the mirrored wall.

"Oh! A—a pearl pendant! Oh, Uncle Paul, isn't it beautiful!"

"A little birthday gift," Morrow stared at her, fascinated by her beauty, fascinated by the sight of that single pearl, lustrous against the satin-white of her skin.

"My first piece of jewelry," she touched the pearl with her finger tips. "Uncle Paul, I think it is about time that I fended for myself."

"You're a dear good uncle," she went on quietly. "You've been a real fairy to me, and I've let you. But some day I shall pay back all this expense; and I shall pay you not in love alone, dear uncle." Her tone became matter-of-fact. "You see, I've been thinking a lot about—about myself and the world."

"What's all this nonsense?" exclaimed Morrow, staring at her. "Forget it! When you leave Mrs. Drake next month you're going on to Vassar. Your application has been in for the last four years. You—"

"I've decided not to go." She smiled gravely at him.

"Not—to go! I've set my heart on your going."

"I'm sorry, Uncle Paul. I've made other plans. I'm going to take up a business career. I don't like poverty."

"Poverty!" Morrow wore a blank, helpless expression. "Why this talk of poverty? Does the feel of that pearl hint at poverty? I'm not a poor man—"

"It's not that at all, and you know it. It's something within me, Uncle Paul. It's something that's taken hold of me; something that has come to me day and night; something I know!" She leaned forward earnestly. "I'll not be dependent upon you, Uncle Paul, except for love. I could be dependent on no one! I'm going into business. There's a big field for women in business."

"My dear young lady," exclaimed Morrow, "the cities are teeming with women in business. The woods are full of 'em. Women lawyers, women doctors—"

"You miss the idea," said the girl calmly. "I'm not talking about stenographers and the kind of woman who deliberately takes up the type of work for which a man is better fitted; I am neither a drudge nor a masculine girl, I fervently hope. Am I?"

"Eh? Why—pon my soul! No!"

"I'm talking about real constructive business, big business. I'm going to enter the lists and shiver a lance with 'big business,'" she went on. "I'm going to make money—not a pittance, but loads of it."

Morrow laughed suddenly.

"My dear, do you know how hard men hang on to money? Do you know that 'big business,' or little business either, counts every mill and grips it hard? You have a fine ambition, and I am proud of you for having it, but, my dear Julietta, you don't know—"

"Don't know!" she broke in. "Don't know what? The practical side of it. Granted. I intend to learn that side of it right away. I'm going to play the game, Uncle Paul."

He nodded. His face became grave as he watched her, appraised her, weighed her in his mind's eye.

"Listen, little girl! Business is a life study. You were made for love, not for dull scrutiny of books and men; you were made to take your high place in the world—"

"Did anyone make your place for you?" she flashed at him. "Or did you make it?"

The shot went home.

"What do you want to do?" he asked helplessly. "In concrete terms?"

"May I do it, first?"

HIS hand went across the table and enfolded her slim fingers. He looked down at them for a moment, then met her eyes with his quizzical, warm-hearted smile.

"Dear Julietta, you may do anything in this wide world you want to do, and you may always know that behind you stands Paul Morrow and all that he has. Yes, you may do it. It will bring you sorrow and trouble and failure, but I shall stand waiting and watching, ready always to come when your dear voice calls to me. Now, what is your wish?"

"Dear Uncle Paul," her fingers pressed his for a brief instant—"I know there will be hard days ahead, and I am content to learn. Life is so long to live."

Morrow felt a dull pain at those words. Life so long to live, indeed! He knew better.

"Tell me, then," he said again.

She drew back, eying him meditatively.

"You're the manager of the Truitt Shoe Company. Then get me a job. There is money in shoes. I know it, because I've spent a lot of yours on them. People often get their start through influence, and I want to use yours to get mine. Will you?"

His eyes twinkled for the first time in long moments.

"You are mistaken, Julietta. I am not the manager. I've broken that connection."

"What?" Her startled eyes gleamed across the table at him. "After—after all these years you've broken that connection?"

"The firm broke it, rather. There is no sentiment in business. You see how your plan has failed at its very inception."

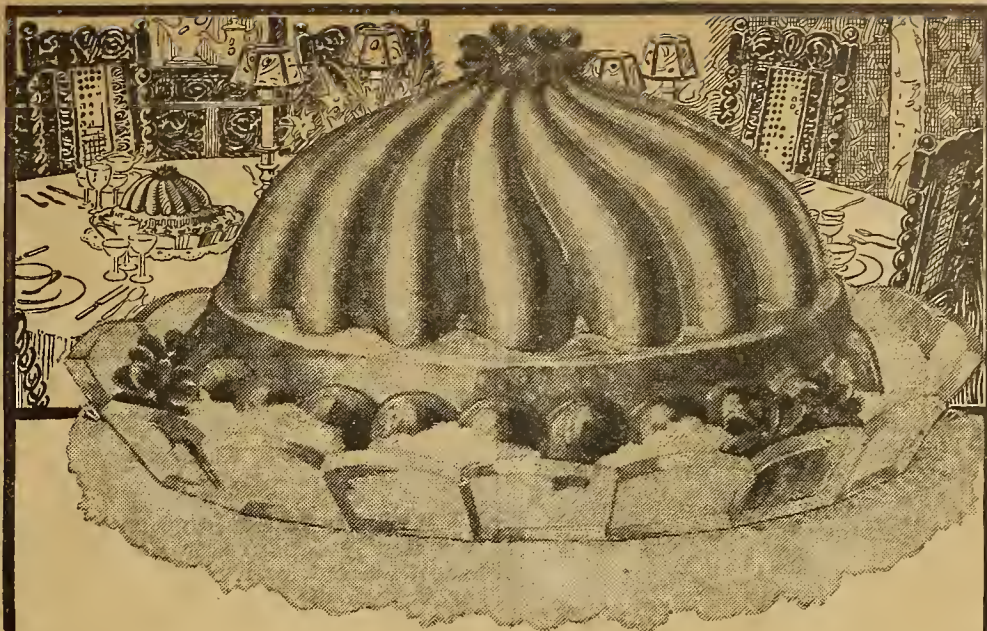
She leaned toward him, losing her rare, vivid smile; her dark-lashed eyes melted into luminous turquoise as she patted his hand softly.

"Oh, good! No, my plan hasn't failed at all; it's grown better. Splendid! Why, don't you understand, Uncle Paul? We'll go into business together, you and I. We'll make a fresh start, and—"

She paused suddenly before his chuckling laughter.

"Oh, it was a mean trick, but I told the truth!" He leaned back and held his sides. "I'm not the manager any more—two days ago they made me president. It's my company. And 'pon my soul, you shall have your wish!"

[CONTINUED IN NEXT ISSUE]



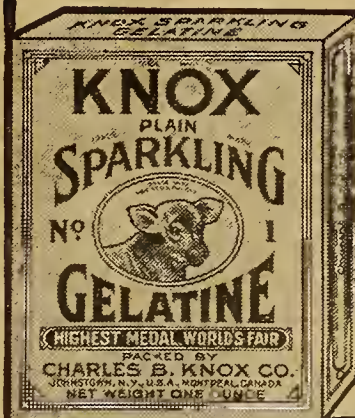
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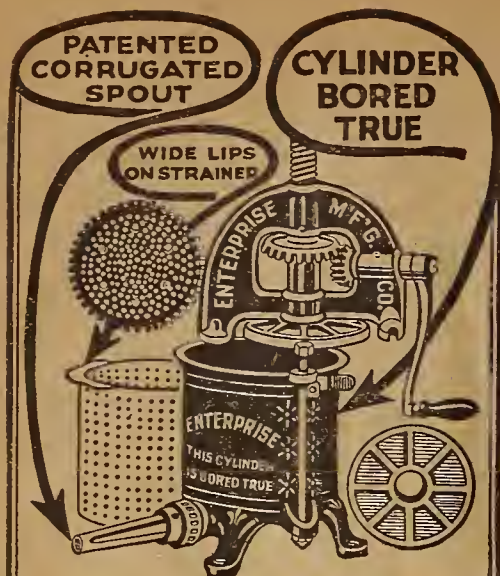
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**The Comer Mfg. Co.**  
Dept. M-12 Dayton, Ohio



## Children's Corner

### Lost in the Woods

By E. S. Masterson

Part II

WHEN we tried to go on she could hardly walk. Her little fat legs were tired out, and we could not carry her, though we tried valiantly. We sat down on a log and thought a little. As we were discussing where we probably were and in which direction lay our homes, a subject on which we could not at all agree, all at once something bright gleamed through a treetop.

"It's the evening star!" cried Jimmie. So it was. Night had really come.

"Say, we better not go any farther. We better stay here and make a fire and holler, and my papa and your papa will come and find us pretty soon," I remarked.

To this Jimmie reluctantly agreed. But we neither of us had matches for making a fire. Matches were not common in those days, nor cheap, and boys seldom had access to them.

"Look here!" I cried. "Hettie's gone to sleep. Now what shall we do?"

"We must make her a bed," replied Jimmie.

I held the child while he began to rake up leaves and pile them beside the log. Soon he had a soft nest for her and we laid her down there.

"But what shall we put over her?"

"Why, leaves. There is nothing else."

So we both scraped leaves together and covered the child.

"Look here! Let's carry enough to make a big bed and all get in it, and there we can keep warm and listen for our folks coming to find us."

We industriously gathered leaves together till soon we had a heap as big as a haystack. Into this we presently crept beside little Hettie, one on each side of her, and with only our heads out, and they covered with our little warm home-made caps.

"We ought to take off Hettie's shoes," suggested Jimmie, and he crept out and dug into the leaves at the other side of the pile till he came to her feet, and removed her shoes.

"Please take mine off too," I said, and he took them off. Then he pulled off his own boots and came creeping into our leafy bed again.

"I wish I had a pillow," I complained.

"Never mind. Put your head on your arm," commanded Jimmie.

"I can't. Hettie is lying with her head on my arm."

"Then double up a handful of leaves and put them under your head."

WE LISTENED as intently as we could for the coming of our rescuers. The forest became very silent, save for mysterious noises here and there—a cry in the treetops, a slow foot-fall in the leaves that made us draw closer together.

Sooner than we expected sleep came to us and we forgot our troubles for a time. Little Hettie tossed uneasily now and then.

"I'm too warm," she sleepily murmured, and tried to throw off the covers, whereat we laughed and brushed the leaves from off her face.

Then we all slept too soundly to know more. We were awakened by the vigorous ringing of a bell. I sprang to a sitting posture, and Jimmie was up at the same instant. Where were we? At first we could not remember. Then it all came back. Morning had come to the forest, and it was near sunrise. A bell was ringing, now vigorously, now slowly, in a grassy glade near-by.

"It's Hines' old cow," cried Jimmie. "Now we can find our way home," and he sprang briskly up and began to pull on his boots. We awakened bewildered little Hettie, who was brave and cheery in the morning light and sure that now we would soon be home to Mama and breakfast. We helped her to put on her little shoes and, gathering up our baskets, set out for the cow.

She was an old red cow with a crumpled horn. She looked up from her grazing as we drew near, and seemed a bit astonished at seeing us, but when Jimmie boldly approached her and called, "Hey, Boss, get along home now!" she turned meekly and started off, and we followed. She had not walked far before she found a cowpath, a thing that somehow we had not seen

the night before, and following this she led us through a miry swamp, not very wide, where we walked on slippery little fallen trees to the other side, then on to a plainer path, to wood road, and then to a pair of bars. And there, beyond the bars, appeared to our astonished eyes the pasture, the persimmon tree, and smoke curling up from the log chimney of Jimmie's cabin home! It was not more than three quarters of a mile to our people.

How we hurried across the frosty pasture, talking eagerly of our adventure and of what our folks would say and do, and wondering why we had not found our way out and why they had not come to seek us. Judge of our astonishment when we drew near to be met by good Mrs. Shaw, who said calmly: "Why, good morning, childer. I did not think to see you till breakfast."

"Why, where did you think we were?"

"And were you not all at your mother's, little Joey?" she asked me.

"No-o-o!" emphatically from the three of us. "We got lost and slept out in the woods all night."

THEN indeed there was commotion, and little Hettie was snatched to a tardily solicitous bosom and many an exclamation over "the poor dear childer," now, and was it not a shame, now, and sure it was your mother, little Joey, that told me yesterday that she was looking for my childer to spend the night at her house, and I told her indeed it was my turn to keep you at our house, so maybe she thought you were here, just as I thought you were with her."

Then, talking all together and singly, we told of our adventures, and how we had walked till we saw London, and of the pile of bones we had discovered, and how little Hettie grew so tired and sleepy that we just had to stop and cover her up where we were.

"Sure, 'twas always a sleepy-head she was, after the stars came out," cried the mother, hugging her darling. "But get along now and wash your hands and faces and I'll see how many pancakes ye can eat."

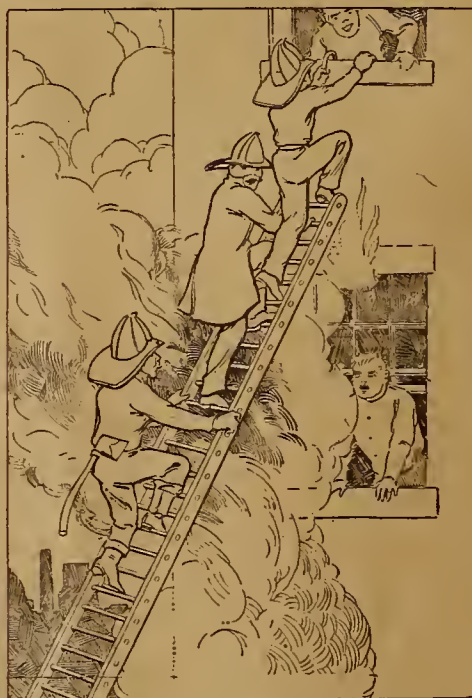
## New Puzzles

### A Ladder Puzzle

The big fire chief worked out a clever puzzle the other day as he steadied the foot of the ladder, and shouted encouragement to his brave fire laddies.

"We should have used the 100-rung ladder," said the chief; "this ladder falls rather short."

"How many rungs has this ladder?" asked a bystander. Then the chief sprang his puzzle: "Tom went up five rungs at a step, Dick climbs four rungs



each step, and Harry goes three at a time. Now look up, and you will see that Tom's steps come out even at the top.

"Figure out how each man will take his last step on the ladder, and with that information you will be able to answer your own question."

How many rungs are there in that ladder?

## Answers to Puzzles

Puzzles Printed Last Issue

## An Investment Problem

One quarter of Mrs. Smith's money or one third of her husband's money would buy that shady grove and babbling brook, which was priced at \$833.33 1/3.

## A Round-Trip Hallowe'en

By Emily Rose Burt

ONE young people's society in a country church recently had a jolly Hallowe'en-social which netted them both fun and funds.

Four housewives opened their houses for the progressive trip, and other people who owned cars offered the use of them. The result was that on Hallowe'en the village green in front of the church was full of strangely decked automobiles arranged at four stands. These were labeled respectively with huge signs as follows: Witches' Special, Ghosts' Twin Six, Black Cat Flyer, Jack-o'-Lantern Jitney.

Each Witches' Special was hung with red lanterns and trimmed with black fringed paper. The headlights had witch faces painted on them and wore peaked black caps. A witch driver in black robes and pointed cap sat at the wheel.

The Ghosts' Twin Six was hung with white, and a ghostly figure in sheet costume sat silently in the driver's place.

Meows from the Black Cat Flyer called attention to its driver, who wore a cat mask. On the radiator sat a toy stuffed cat and cardboard cats adorned all available parts. The lamps were lined inside with green paper to look like glaring cat's eyes.

The Jack-o'-Lantern Jitneys were decorated with cornstalks among which artificial jack-o'-lanterns gleamed. Of course, the headlights simulated faces, and the chauffeur wore a yellow cambric suit stuffed out pumpkin-wise and topped with a funny jack-o'-lantern mask, home-made.

The charge for a round trip to the four houses represented by the four types of cars was a quarter. Any car would make the round trip, going first to the house for which it was named.

Thus if you chose the Witches' Special you would be whisked first to the Witches' Den. Here the decorations were entirely red and black, and weird red-colored lights illuminated dimly the rooms where fortunes were told.

One witch opened the door and another directed with a broomstick to the various activities. A pretty girl witch watched over a black caldron which yielded up little fortune scrolls tied with red ribbons. Another pretty witch read palms, and still others served tea and read the tea leaves. "Red devil" was served at ten cents a plate.

IN SOME contrast to this was the Ghosts' Resort. The visitors were met at the door by a ghost with finger on lips. Placards demanding silence were prominent, but slips were at once handed out for sign conversation. These bore three topics: "Weather," "Styles," and "The High Cost of Living." The young people had much fun trying to interpret each other's gestures and reply appropriately. At intervals mysterious shrieks and groans could be heard throughout the house. The refreshments were lemon ice and "tombstones," the latter merely white-frosted slabs of cake.

Admission at the Black Cat was a "cat call" from each person, and the amusements varied from "Puss in the Corner," for the more active visitors, to a contest in cat drawing with the eyes shut, for the quieter guests. The refreshments were chocolate mice at five cents each.

At the Sign of the Jack-o'-Lantern the windows were bright with pumpkin faces and squash and cucumber "jacks." One of the best games here was "Throwing Grins." It was played this way: A circle was formed, a chosen person in it grinned broadly and, looking directly at someone else, pretended to wipe off the grin and throw it to the person gazed at. Immediately this person had to assume the grin and in turn pass it on. Quite an effort is necessary to keep sober faces in this game, and gales of merriment are likely to result. Blowing out the candle blindfolded after three turns about is another appropriate contest. Coffee, pumpkin pie, and cookies with jack faces were popular here at a fee of ten cents.

NOTE: A set of fortune rhymes for the witches' caldron will be sent on receipt of a stamped self-addressed envelope, by the Entertainment Editor, FARM AND FIRESIDE.

## I Will

ONLY two words, but they spell the power of the man. Back of them is a purpose and a rock-ribbed determination to carry out that purpose. These words speak final success for the life. There may be the sneers and scoffs of his fellows, but the "I will" causes the man to believe in himself and press on. Sometimes he may be on the verge of failure, but he turns from it to success with an unconquerable spirit. He keeps heart in any fate.



# When Fall Days Come

## Sensible Garments for Work and School

AS IT gets cooler, sewing is easier, and the foresighted woman will outfit herself and her children for the new season. Patterns for the designs shown here should be ordered from Pattern Department, FARM AND FIRESIDE, Springfield, Ohio.

EVERY patriotic housekeeper will want the uniform recommended by the National Food Administration, for its simple, practical features make it ideal for all sorts of housework. The dress and cap are shown below, No. 3382.

No. 3334 is an all-over apron with a convenient belt arrangement. Shoulder straps cross in back and form belt.



No. 3333

To the right, No. 3334—All-Over Apron, Band Yoke Effect. Cut in one size only. The price of this pattern is fourteen cents.



No. 3333

The front piece of No. 3333 covers the place where aprons get the hardest wear and can be taken off and laundered separately. It is made of the same material.



No. 3319



No. 3319

It is a problem to find "something different" for a boy's suit, for boys themselves do not like anything very unusual. But this little model solves the problem, No. 3319—Boy's Suit with Right Side Closing. 2, 4, 6, and 8 years. Pattern, fourteen cents.



No. 3334

To the left, an apron for the young girl, No. 3333—Girl's Double-Wear Apron, Detachable Front Piece. 12, 14, and 16 years. Pattern, fourteen cents.

To the right, a smart street dress, No. 3370—Long-Waisted Dress, Plaited Skirt. 34 to 44 bust. Width, two and one-half yards. Pattern, fourteen cents.

Below a two-in-one design suitable for negligee or better wear, No. 3376—House Dress and Negligee in One. 36 to 44 bust. Price of pattern, twenty cents.



This is not two different models, but one garment adjusted by the waist and shoulder straps as either a negligee or dress, No. 3376.

To the right, a pretty little frock for "dress-up" times, No. 3345—Child's Frock with Apron Panel. 2, 4, and 6 years. Pattern, fourteen cents.



No. 3345

Dress the children simply and keep to washable fabrics as long as they can wear them. Farm and Fireside patterns give the best service.



No. 3351

The schoolgirl needs an everyday dress with simple lines and a touch of becoming trimming. One she can put on in a hurry usually suits her best. Make her No. 3351—One-Piece Dress with Side Closing. 6, 8, 10, and 12 years. Pattern, fourteen cents.

Insignia for No. 3382 can be obtained from the Food Administration, Washington, D. C., for ten cents.



No. 3382

No. 3382—Adjustable Dress with Detachable Cuffs and Cap (also suitable for an apron). 32, 36, 40, and 44 bust. Special price, ten cents.



No. 3370

Fashion still clings to loose, straight-line effects, and this model combines comfort and style admirably. Serge trimmed with satin is a good combination.



No. 3376



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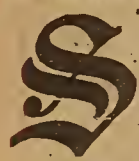
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# FARM *and* FIRESIDE

The National Farm Paper - Twice a Month

ESTABLISHED 1877

5 cents a copy

Saturday, October 20, 1917

Eastern Edition



The Munition Maker





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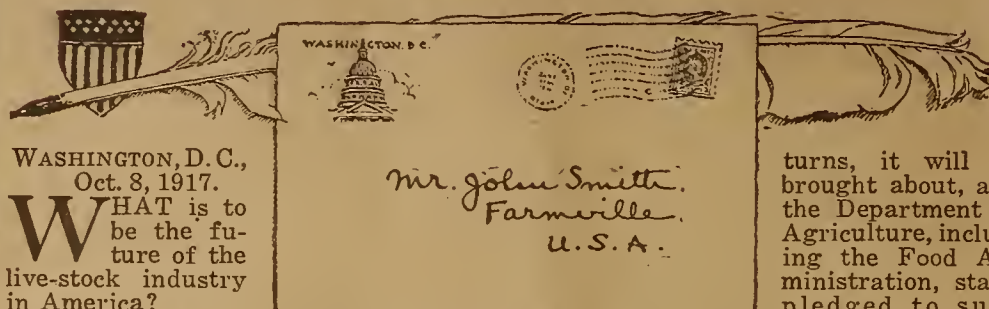
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## Better than Leather

# We Need More Meat

*The Producers Want Packer Profits Regulated*

By JOHN SNURE



WASHINGTON, D. C.,  
Oct. 8, 1917.

**W**HAT is to be the future of the live-stock industry in America?

Are our herds and flocks to increase or diminish? Will we remain a nation of meat eaters or, like the Chinese and other Orientals, become largely dependents on vegetable diet?

These questions and many related ones were given serious and solemn consideration by live-stock producers at the recent conference held in this city, and called by Secretary of Agriculture Houston and Food Administrator Hoover.

The object of the conference was to take up live-stock production problems described by the Department of Agriculture as "vital to the national welfare," and especially the increase of production and better systems for the marketing of live stock and live-stock products.

When the head of the House of Hohenzollern in the summer of 1914 secretly ordered his armies to smash through Belgium and drive across the French border, he did not foresee the disaster that would come to the world's live-stock industries and now threatening widespread meat famine.

It was made clear by George M. Rommel, Chief of the Bureau of Animal Husbandry of the Department of Agriculture, and others in position to know the actual situation that the slaughter of animals for food in practically all European countries has already advanced much farther than was generally supposed.

Even the choicest breeding stock that has been bred for generations with the utmost care has already had alarming inroads made upon it. Animals that before the war began would have commanded fabulous prices for export for breeders have been sacrificed on the block for food, and every week sees the inroads continuing. It is estimated that the herds in Europe have been diminished by 28,000,000 cattle, 34,000,000 sheep, and 32,000,000 hogs. With this astonishing cutting-down of the European home supply of meat animals the demand on our own meat supply must be beyond anything we have thought possible.

Meat must be an important part of the soldier's diet when enduring the stress, strain, and super hardships in the fighting zones, in order to keep him up to the most effective fitness for his heart-breaking work. And fats are just as necessary as meat itself, hence the importance of well-finished hogs, cattle, and an abundance of dairy products.

As more and more of our soldiers cross over into the active battle lines the meat supplies shipped to Europe must increase accordingly. Not only must the meat supply of this country be kept ever up to the need of our soldiers, but the dwindling supply of our allies must be kept from exhaustion. To do this, every source of possible feed for animals must be used, and we who remain at home must curtail our extravagant meat-eating habits and be content with making use of more poultry, rabbits, and kinds and cuts of meat less well adapted to shipping and preserving for the soldier's use.

**I**T IS useless to complain of the constantly mounting prices of all meats, for it was unmistakably shown and proved by stock raisers at the conference from every section of our land that the prices of feeds required to produce meat animals have advanced even faster and farther than the profit from meat itself, so that the producer of meat animals and dairy products stands a better chance for profit by reducing rather than increasing his dairy and meat stock. However, the conference brought out the fact that the rank and file of stockmen are ready to speed up meat production as much as possible if they can have assurance that the packers and other middlemen will be content to share the smaller profits with them as a means of helping win the war.

Mr. Hoover has decided to take no action that will in any way interfere with the returns that meat producers and dairymen will secure from conducting their operations. On the other hand, if the stockmen and dairymen can be helped to get a fairer share of such re-

turns, it will be brought about, and the Department of Agriculture, including the Food Administration, stand pledged to such support as can be

furnished the stockmen.

As an expression of the feeling of the conference, I here reproduce one paragraph of the resolutions passed, indicative of the thought and harmony that existed:

"We hereby pledge to the President of the United States and to his administrative officers our loyal co-operation in carrying out such measures as they may consider necessary to the successful prosecution of this great war for world-wide democracy."

The resolutions are worthy of consideration, since they reflect the thinking mind of the foremost producers of this country as well as leading officials of the Department of Agriculture and Mr. Hoover on the needs of the present situation. And first of all they contain the pledge of support to the nation in these grave war times.

Probably the most important recommendation in the entire set of resolutions—one strongly advocated by nearly every producer—was the exercise of government regulation of the great packing houses so as to prevent them from depriving the producer of a just profit, and to eliminate manipulation and speculation and give the producer a square deal. In the same connection it was recommended that waste in distribution be stopped, to the end that the consumer may secure his meat supply at "the lowest possible price consistent with sound economic principles."

**T**HE establishment of a definite relation between the values of hogs and corn was another important recommendation which the conference agreed to unanimously. The conservation of garbage and manure from cantonments, use of the garbage for feeding hogs and of the manure on adjoining lands, government-controlled retail markets in the larger cities where meats and meat products can be sold to the consumer from the packing house at cost plus reasonable profit, the conserving of breeding animals, government action to improve range conditions and encourage production of live stock on the public domain, discount of live-stock paper by federal reserve banks for as long a period as twelve months, special freight rates to enable moving of cattle from drought areas to good feeding districts, reliable daily government information as to market conditions, and encouragement of boys' baby beef and pig clubs were among the important steps recommended. Specific recommendations for dairying, for sheep, and for hogs were also added. Among other things in connection with dairying it was emphasized that restriction on the sale or slaughter of calves would reduce the milk supply.

As to sheep, the national and world shortage was emphasized. It was pointed out that it was immediately necessary to encourage the industry on the Western range and the small farms as well, and it was urged that the ewes from the Western ranges which are unable to stand the hardships there, but which will thrive with good care on the farm, be redistributed to the farms in other sections of the country.

Legislation to protect sheep against dogs was recommended, and the preservation from slaughter of every ewe "which promises an economic future."

A program was mapped out for reduction of the grain ration for hogs to the minimum, and for increase of pasture and forage crops and the home-curing of pork.

Mr. Hoover did not promise the conference that he would adopt a system of licensing and supervising the packing establishments, but it can be said that such a system will be forthcoming. Moreover, the Government will work out and promulgate a definite relation between the value of corn and the value of hogs, and a similar relation may be worked out between other feeds and other animals.

The next generation of Americans may not revel in juicy steaks, rich roasts, thick mutton chops, and savory pork sausage as did its ancestors, but if present plans are wrought out it will at least not be forced to go meatless.



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# FARM and FIRESIDE

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No. 2

## Light, Heat, and Water

### How to Increase the Comfort and Happiness of Your Family

By CARLTON FISHER

**H**OW do you keep your boys on the farm?" I asked Philip Saul, farmer and business man of Montgomery County, Ohio.

"By making it an attractive place for them to live and work," he answered. "These sons are young men, past the age when many boys have already left the farm to join the hosts of factory workers in our cities."

"Here is their home," he said. "Not a fine place, as homes go, but it is comfortable and convenient. I try to arrange it so their work can be done always under the most favorable conditions possible. Then there is very little chance for them to become disheartened and discouraged over their tasks."

"The automobile, of course, gives them considerable opportunity for recreation, but the thing that gives them the most enjoyment just now is electric lights."

"Yes, sir! Right here on the farm," he went on, noting my questioning look. "A small individual electric light and power plant which we installed some months ago out here in the garage furnishes the electricity."

"We have the house, barn, sheds, porches, yard, and barnyard all wired up and the lamps placed wherever we need them. Electric light is a big help around the barn. Everything is lighted up the same as daylight for all practical purposes, so that the night work can be done in the shortest possible time."

Mr. Saul pointed out the big electric light mounted in a gooseneck reflector at the end of the barn. He showed how it could be turned on and off by means of a three-way switch, from either the house or the barn, and said that it was a valuable protection in case of prowlers or marauders after night, for the whole place could be lighted up without any member of the family exposing himself.

#### Electricity Makes Families Cheerful

**H**OWEVER, it was in the house, he said, where the greatest satisfaction was found with their new lighting system.

"The dining-room is now a more cheerful place, for in addition to the electric light which lights it up after night and on dark days there is an electric fan to cool things off at mealtime in hot weather."

"Then the sitting-room offers plenty of light for everybody when we gather around after supper to read or study a while before bedtime, and of course the boys like that. It used to be discouraging enough to try to read by the coal-oil lamps, and somebody usually had to sit away from the light."

"Then each bedroom has its electric light, and that makes it a pleasant place for anyone who happens to want to read or work by himself."

Mr. Saul said that he was then planning to extend his electric service by getting a small electric motor to run all the light machinery, such as washing machine, churn, grindstone, and so on, around the place.

He and the boys showed me the electric plant which is doing so much for the benefit of this home. It consists of a small gas engine and electric generator directly connected—turning on the same main shaft. There is a switch-board mounted on this unit, and a sturdy storage bat-

tery of sixteen big glass cells.

Since the engine is air-cooled and the storage battery will not freeze except at a very low temperature, they can have it in the garage without any danger from cold weather. The engine burns either gasoline or kerosene for fuel, and it requires only about a gallon a week to give them the electric service they now need.

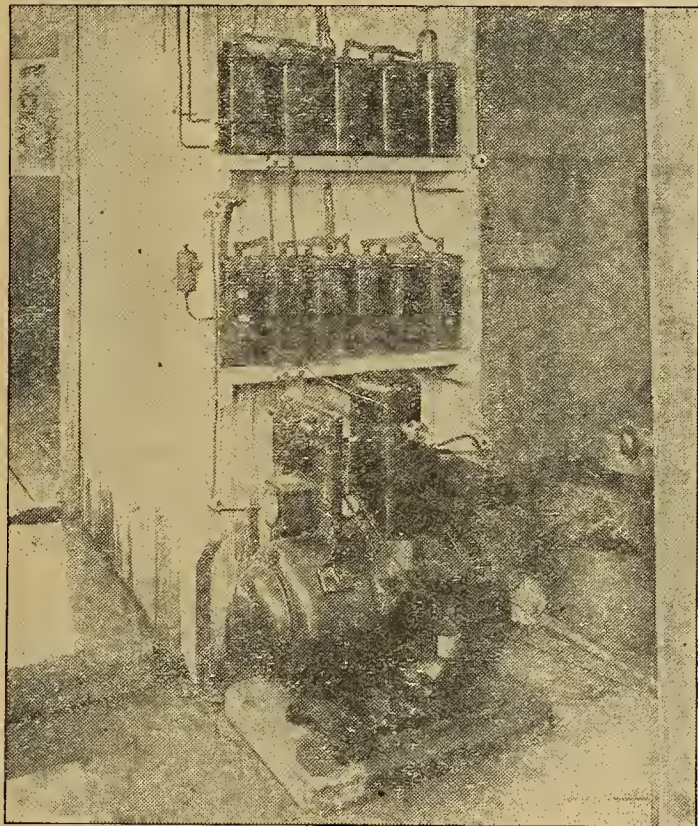
This is just one instance of what the farmers in our locality are doing to make country life really worth living. When we built our own home two years ago we decided to have plumbing equipment so as to do away with the drudgery of going outdoors for water, and especially the work of carrying out the waste water. Plumbing of course meant a heating plant also, because pipes filled with water must be kept from freezing.

We decided on a so-called pipeless furnace having one large register but which was guaranteed to heat the entire house evenly. A hot-air furnace lacks some

of the merits of hot-water and steam systems, but we chose it because of its simplicity and relatively low cost. Furthermore, after getting full particulars I decided I could install it myself. It came in five separate castings, which I put in place according to directions, using a very adhesive asbestos cement that was furnished with it to seal all the joints. The outside jacket of the furnace was to be made of brick. About 400 bricks were needed, and the total cost of the whole job was less than \$100, including the freight.

The size of furnace we selected was guaranteed to heat a house double the size of ours, so we have had no difficulty keeping all the rooms comfortable in the coldest weather. It is always better to have any heating plant a trifle oversize than to have it too small. Our furnace is in the center of the cellar and the single large register is just above it in the corner of the largest room, which is the living-room.

But as we like to have the bathroom extra warm, I installed a small regis-



A farm-size electric light and power plant doesn't occupy much space

ter in that room also, after the first winter. This was done by making a hole in the brick jacket of the furnace large enough to receive an eight-inch furnace pipe and running several lengths of pipe from this to the register in the floor of the bathroom. The total cost of this additional register was less than \$5 for all the material. Now we can heat the bathroom to 90 degrees or over, if desired, and still have the usual temperature of 70 in the other rooms.

The plumbing system was somewhat more difficult to install; in fact, it consumed my spare time for the better part of three months. The first consideration was the matter of drainage, and I decided to hire a plumber to put in the soil pipe and drainage fittings. This is work requiring considerable knack and equipment, which I did

not have. But after that was done the placing of fixtures was quite simple. I talked over the question of water-pressure outfits with several plumbers, most of whom advised a tank in the attic, but this would not give me enough pressure for fire protection, nor for sprinkling the garden.

So on my own judgment, based on what I had read, I concluded to put in a pneumatic-pressure system. The tank is installed in the cellar, where it is safe from freezing, and pressure is secured by pumping water into it, thus compressing the air in the top of the tank. There is a water gauge to register the height of the water and a dial to indicate the pressure. The outfit will safely stand a pressure of over 100 pounds, but I have never had occasion to use more than 35-pound pressure, which is more than ample for general use.

#### Conveniences Pay Money Dividends

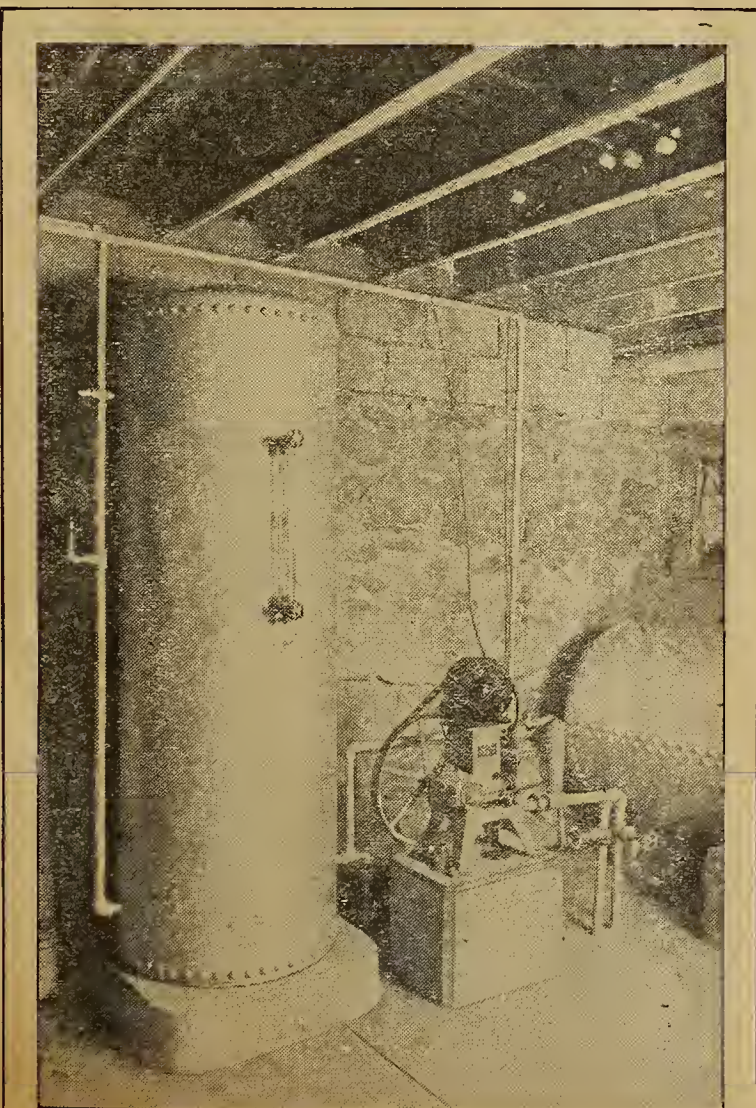
**I**F ONE should so desire, he may fit a pipe back of the mechanism operating the release which starts the pump when the pressure becomes low. Then it is possible to pump a drink of fresh water directly from the well, for each time the faucet is opened the air pressure immediately starts the pump. Here is a convenience that modern city homes cannot afford, and one which many high-priced office buildings are without.

You may be sure that I had misgivings about the ability of the tank to withstand shipment by freight and not leak when filled with water under pressure; and, besides, there was a special double-acting force pump which, if like other pumps I have known, would leak slightly around the plunger rod.

But these fears were groundless. I followed directions to the letter, and the cement floor under the entire outfit is perfectly dry at all times. In warm weather when the tank is freshly filled with cold water it will sweat a little, but not enough to run down. This system, which, including the fixtures, cost less than \$200, furnishes running water all over the house and to a hose connection outside.

The 1½-inch intake pipe from the well passes through the cellar wall and connects with the force pump, which is in the cellar near the tank. Thus there is no pump over the well, and sometimes we almost forget where the well is located. My greatest help in doing the work described was the literature of concerns making and selling the equipment. While there are books on the subject, none I have seen are as definite as the commercial catalogues which tell exactly what to do, how to do it, and what the cost will be. I used galvanized pipe throughout, and put in plenty of valves, so

FINUED ON PAGE 6J  
EW



Gauges show the pressure and water level in a pneumatic water-supply system



# First Aid for Sewing Machines

## Practical Repairing Facts Which Will Double Their Service

By M. D. RUDOLPH

I HAVE been on the road for the past fifteen years repairing sewing machines, and I feel that it will be of some help to tell the world how the housewife can take care of her own sewing machine so that it will never balk on her in the middle of a rush job. A sewing machine properly taken care of will last twice as long and do much better work than one which is never given any attention until it breaks down.

In the first place, when you open your sewing machine to sew, take a soft rag and clean off all dust and lint. Raise the head and clean underneath, rubbing all parts clean and bright. Never let oil stand on any part, for it will harden and turn black and make a hard gum which will cause your machine to run hard. When a machine gets in this shape, some women will take coal oil and pour it all over their machine, thinking it will cut the gum. This is a mistake. Coal oil is not fit to use on a machine, for instead of cutting the gum it will harden it.

Keep the machine clean from the start and you will have no trouble. After the preliminary dusting, take your oil can filled with a good oil and go over the machine, pouring two drops of oil in each of the proper places. Do not oil where oil is not needed, and have a cloth in your hand to wipe up the excess. This is important.

Never let children play with your machine. A sewing machine is not a toy, and there is no use in ruining your tool for the sake of a few moments' pleasure to a child. It is dear fun for a mother to let her child wreck a \$60 machine in less than a year.

I have seen sewing machines in homes in bad shape—all rusted, the cabinet scratched, the print of a sad iron on the table, lint and cobwebs under the head, the attachments lost. The housewife will say: "This machine is no account. I have had it a year, and look at it!"

You cannot expect a machine to keep its looks and its serviceableness if you let the children make a playhouse out of it and use it as a drain board, a water stand, a medicine case, and a catch-all for all the things the family carelessly chuck on to it instead of putting them away.

When your machine skips stitches it is because your needle is too short. If you have the right needle for your machine and place the flat shank next to the needle bar and let it go up as far as it will, setting it so as to hit the hole in the needle plate plumb, the trouble will be remedied.

Then notice your shuttle. See if the shuttle case is too far back so that the shuttle lies back and when the needle carries the thread down the shuttle misses the thread, causing a skip. The shuttle must lie up against the half-moon curve—not too tight—so as to pick up the thread. To fix this, raise the head of the machine and take your screw driver and loosen the screw that holds the shuttle, slip it up a little so as to hold the shuttle up in shape, and tighten the screw. This will prevent your machine from skipping stitches, as it might otherwise.

Many people have trouble in machines not feeding. If you will take off your needle plate under the presser foot you will see why your machine does not feed. With your screw driver scrape out all the hard lint and gum you find there, since it holds the feeder down and keeps it from coming up through the needle high enough to carry the goods through. If after cleaning the feeder out well it does not feed, raise the head of your machine and loosen the screw, raise just a very little, and tighten.

### So the Needles Won't Break

SOMETIMES your presser bar gets loose and lets the presser foot turn to one side, and this causes your needle to stick and break needles as fast as you can put them in. There is a small screw over the lever that raises the presser foot. Tighten this until the presser bar will not turn—not too tight—so that the spring at the top will not make it come down and it will hold your presser bar and foot in place.

The tension should be taken apart and well cleaned. Sometimes short pieces of thread will break off and hold the tension open so that it will not hold thread. Clean the tension, and be careful to put it back correctly. This will be simple if you observe it carefully when you are taking it apart. To clean, take out the shuttle and remove the tension. You may find little pieces of thread that have been there for years and that have rusted in. With a piece of fine sandpaper

rub bright. Then place your tension back and tighten so as to make the thread pull hard enough to make the stitch lock in the center of the cloth. To do this, thread your shuttle and then your machine. Put your shuttle in and give the wheel a turn. Bring the threads up through the needle plate, take in one hand the thread from the top of the machine and in the other hand the thread from the shuttle and pull both at the same time. Then loosen or tighten above or below so that both threads will pull the same and not have them too tight, and your machine will make a perfect stitch.

A word about sewing machine agents and repair men: The housewife should be careful about whom she lets work on her machine. There are hundreds of tramps going through the country claiming to be repair men, who don't know any more about a sewing machine than a hog does about Sunday.

Such men will ruin your machine and charge you for it. If you cannot repair your own machine, get a reputable repair man at home, and do not trust to the tramp odd-job man. All he wants is your money.

It is best to buy a standard make of sewing machine when you are buying. An agent may come to you with a very attractive offer—to exchange your old machine at a high value plus about \$40 for a new one.

He may be offering you a machine worth only about \$18 or \$20. Sometimes you may actually give him a better machine than you buy and pay \$40 extra for it. Be sure that your own machine is worn out before you discard it for a new one.

Often a new shuttle or a new feed box will fix it up as good as new, and these little things your hardware man or a sewing-machine firm can supply, and you can easily attach them yourself.

## Fall Cleaning

WHEN cleaning your rugs during the fall house-cleaning, do not hang them over a line.

Lay them flat on the grass when you want to beat them. Even cheap rugs improve in color and gloss after use if they are properly taken care of. They should be swept always with the nap, never against, and it sometimes helps their appearance to wipe them off with a damp cloth.

In cleaning woodwork, remember that alkalies like ammonia and borax act on paint. Clear, warm water is best to clean paint. If the woodwork is stained you may have to use ammonia to remove the spots, and then repaint. Whiting and cold water is often sufficient to remove all spots.

If the wall paper is torn or marred in any way, patch it with a piece matched carefully. This is much better than using a cleaner on a stained spot, since this usually results in making the marred spot all the more noticeable.

A furniture polish made of equal parts of boiled linseed oil, Japan drier, and tur-

pentine will be helpful in removing scratches and stains from furniture and woodwork.

When house-cleaning this fall, make up a list of all the little repairs that if made would make the house more comfortable. Then have the handy man of the house take a morning off to do all of them at once.

Hinges that squeak, locks and knobs out of order, doors that are warped so that they close hard, windows that will not open—these are some of the little things that try the soul. A woman may go on day after day, irritated every time she tries to pull out or push in a drawer that sticks, and yet do nothing to help it. A little soap rubbed on it may be all it needs, or perhaps it will take a few moments' work with a plane, but at any rate the repair should be made. It will pay in sweet temper if nothing else.

## The Bedroom

By RUTH M. BOYLE

THE room that receives the least attention, the least care in planning, and which has the least money put into it in the average house, is one in which at least one third of a person's time is spent—the bedroom.

Occasionally the visitor on the farm is ushered into an airy bedroom where the harmonious color scheme, the dainty curtains, the simple, well-made furniture, and the spotless linen all suggest rest and refreshment. But more frequently both family and guest sleep in stuffy, unattractive quarters where little or no thought has been given to wall paper or furnishing. In some homes chairs, carpets, and pictures considered too ugly or old-fashioned for the living-room are transferred to the bedroom, regardless of their usefulness or appropriateness. Uncomfortable old beds and lumpy mattresses are used year after year when a very few dollars spent for good springs and mattress would nightly bring deep content.

"I hold my breath every time I go to a new place to board," a country school teacher said. "You're likely to be given a dark room, the windows of which can't be budged from long disuse, half a dozen hooks on the wall must serve for a clothes closet, and a bumpy corn-husk or straw mattress and perhaps a feather bed scares away sleep. Or you may have a heavenly place like the room I had last winter."

The "heavenly" place she described was just a medium-sized room with two windows curtained in white scrim, the walls papered with dainty-figured paper, the floor bare except for three small green-and-white rag rugs. The furniture was all white—an enameled metal bed, a home-made dressing table, a chiffonier, a rocking chair, a study-table, a straight chair, and a washstand with bowl and pitcher. It was all inexpensive furniture, but it was harmonious and every piece was useful, comfortable, and easy to clean.

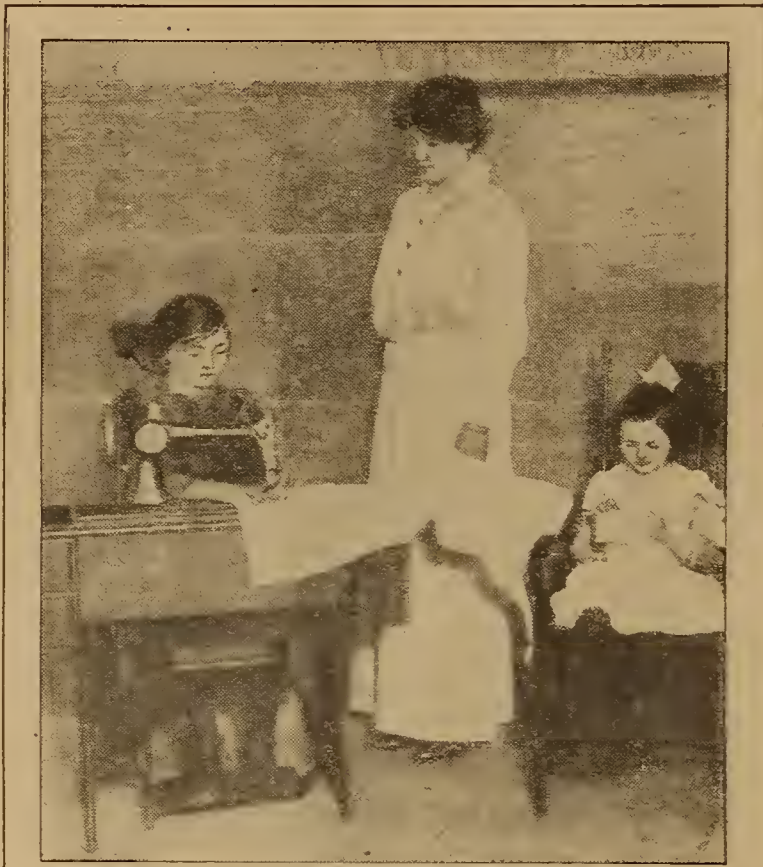
There are two things to strive for in planning a bedroom—restfulness and cleanliness. If both of these are attained, a room will be certain to have charm and beauty. Fussy furnishings should be avoided, because they are distracting. If the wall paper is plain, cretonne or chintz may be used to brighten a room; but if the paper is figured, curtains,

counterpane, and dresser cover should be plain white. The bed is, of course, the most important consideration in the bedroom, and everything about it should be of the very best quality that can be afforded, and always kept scrupulously clean. Bare floors are best, but if they must be covered a high-grade matting should be used. A cheap grade will splinter off.

The guest-room should not be the best room. Mother or some of the young people in the house need the brightest, sunniest room more than the casual guest who only enjoys it a day or so, so that its comfort is wasted for weeks at a time.

Furnish the room comfortably, however, air it frequently, and keep it free from the personal belongings of members of the family. A writing table and pen and ink will be appreciated by the guest who wishes to write a note or two during his visit, and a few good books or a late magazine will help to make him feel at home.

E W



Keep the machine clean from the start and you will have no trouble



Restfulness and cleanliness are the two things to strive for in a bedroom



# So You Won't "Burn Out"

## The Way to Reduce the Danger of Fire on Your Place

By ORVILLE CRADDOCK

**Y**OUR house, barn, and other outbuildings, and their contents, are regarded as poor risks by fire-insurance companies for the reason that facilities for fighting fire successfully are lacking on many farms. Experience shows that once a farm fire gets under headway the chances are favorable that it will make a clean sweep. There is small likelihood that the owner will be so fortunate as to get off with a partial loss.

This fact should open one's eyes to the necessity of taking every possible precaution to prevent fires from getting started. The proverbial "ounce of prevention" is here of even greater value than usual, since even at best you are compelled "to carry your own insurance" in part when it comes to the risk from fires.

Most fire losses on the farm divide themselves quite readily into either summer or winter losses—each of which illustrates the perils peculiar to these seasons of the year. In summer, fires resulting from lightning and the handling of gasoline do as much damage, perhaps, as those resulting from all other causes combined. Directly and indirectly, due to carelessness, gasoline engines cause more farm fires than is ordinarily supposed. In addition to the hazard which always attends the handling of gasoline, there is yet another attending the use of a gasoline engine which is not always appreciated. More or less dripping of oil occurs around such a piece of machinery. No attention is paid to it until a spark from the exhaust sets fire to something which has become oil-soaked.

Wherever gasoline is used it must of course be handled. Everyone knows that this liquid vaporizes very rapidly, and that its vapor mixed with air results in an explosive compound. But not everyone knows that this explosive vapor may travel far and still retain its capacity to do great damage. A draft may carry it to a distant part of a building where it may come in contact with an open flame.

In one instance a barrel of gasoline was being emptied into an underground tank a dozen feet outside a building. A breeze carried considerable of the vapor into the building through large double doors which stood open. A draft of air sucked this same vapor through one or two rooms until it reached finally the fire under the boiler. The explosion which followed blew the entire wall from one side of the three-story brick structure and started a fire which gutted the building.

Handling gasoline is not child's play. It is well to remember this even when engaged in so innocent an undertaking as cleaning gloves and finery in the kitchen. Many a disastrous fire has occurred from just this thing. Most gasoline fires, as indicated, occur in the warmer months. This is partly because gasoline volatilizes more readily at this season, and partly because it is more frequently handled at this time of year. This is a hazard, however, which with proper care it is possible to reduce very materially.

The electrical storm in spring and summer introduces a peril which, so far as dwellings and other farm structures are concerned, may be met satisfactorily by the proper installation of lightning rods. Countless dwellings and other buildings are struck by lightning each season, some because of their exposed situation and their lack of lightning rods; others because the lightning rods, put on years ago, have been allowed to get out of order. In the old-style rod the glass insulators are an important feature of the equipment. If these become broken or disarranged the insulation is destroyed, and this fact may invite disaster.

Winter fire losses occur largely because of poor chimneys and flues, overturned lamps and lanterns, faulty protection where stovepipes are carried through ceilings or partitions, and a number of closely related causes. These are factors wherein care and caution are arrayed against carelessness and negligence. Most fires of this class are easily preventable. When one occurs it is safe to infer that the human factor is largely responsible. But as accidents will happen even in the face of precaution, one must needs give some consideration to the issues involved, as an extra margin.

In the matter of protecting yourself by insurance against possible fire loss, you receive small consideration from the standard companies as compared with your urban relatives. You are compelled to pay twice, or more than twice, the city rate. The fact that you may possess a small battery of hand extin-

guishers is no basis for a lower rating. Nor are you given any preference if your house is stone, brick, or cement instead of wood. You must bear the greater part of the hazard.

Your property is considered a poor risk because of its isolation. Nor will the standard companies insure beyond three fourths of the value of your property. The mutual companies will not go beyond a half or two thirds of the value, and seldom to exceed a single risk of \$4,000 or \$4,500. In view of all this it is easy to see how it is that even under most favorable circumstances you are compelled to carry your own insurance to some extent. The companies must play safe on an average.

The fire hazard on your place is something to which you should give earnest consideration. You may carry all the insurance which the companies will accept. Beyond this, however, there is considerable responsibility attending the matter in question. You should see that your chimneys, flues, and lightning rods are in serviceable condition. You should make sure that your supply of gasoline and oil is well stored and cautiously handled. You should forbid smoking around the barns on the part of your men, and should yourself give up to the rule you lay down. These things alone will eliminate a large percentage of fires. If you wish to be even more prudent, place a few chemical extinguishers in handy places, and possibly keep a barrel or two of water and a box of sand ready for unusual emergencies.

You must take no chances, since to a greater or less degree you are your own fire-insurance company.

someone a nice little rake-off by waiting until we get some money from a sale of a crop and paying usually a good many dollars more.

These instances are enough to show what we are really doing. It is like a lot of other things we farmers do without thinking. Certainly I am doing some of them too. I can't see what I do that is in the beaten track, but I do see some things that I have done and that others are doing.

## The Colt's Feet

By DAVID GRAY

**T**HE old adage "No foot, no horse," is frequently emphasized when one sees a number of growthy and likely colts in the dry lot with feet so neglected as to render the animals, in many cases, practically worthless. Neglect of the feet is often the cause of ruined hoofs, and in some cases a cause for faulty conformation of the legs.

When the little colt is foaled, the feet are scarcely more than a bundle of rags. However, this condition rarely lasts more than a day or two, when the foot begins to shape itself and the hoof is formed. The fact that the colt may be foaled very crooked in the legs and down especially in the rear pasterns is no proof that the colt will not develop into a very good sound horse of good conformation.

It is later in the life of the colt, usually the first summer on the pasture and the time following until he is taken up and broken, that the feet need careful and frequent attention. While the bones of the colt are soft and growing, the conformation of the legs is established. The care of the feet and the shape that they are allowed to assume will greatly influence the conformation of the legs. It can readily be seen that if the heel is allowed to "roll," or become rounded, there will be a decided tendency to cause the pastern joint to slope too much, due to the unnatural strain on the fetlock joint, and subsequent weakness will likely follow. The foot should by means of rasp and pincers be made to lie flat on the ground, with quite a pronounced angle to the heel. This will be found to aid greatly in the formation of the proper kind of a pastern on the colt.

In dry years the feet often become dry and very shelly. This is also in some cases an individual trait, as some horses seem to be possessed of very shelly and brittle feet that are almost impossible to keep

in any shape without shoes, and sometimes even then they are not of sufficient quality to hold the nails. This condition may then not always be due to neglect. However, if the colt's foot is kept rounded and shaped properly from time to time the tendency to crack and split will be greatly lessened. If the animal can have frequent applications of oil the condition will also be improved, as the oil will tend to keep the foot mellow and thrifty.

In the growing colt, if the tendency is at an early age to develop too straight a pastern it may be remedied by simply lowering the heels a little. This will, in many cases, cause the proper slope of the pastern to be developed, but if the pastern is straight, caused by the fact that the colt may have had his feet infected in a filthy stable or in a dirty lot, then the case needs different attention. If the feet are sore, due to thrush or some similar cause, the colt walks on his toes to ease the pain. This will of course cause the pastern to become too straight. In this case the foot should be shod with a raised heel. This will take the strain off the tendons at the back of the leg and the pastern will usually become all right in a little time.

The colts kept in the barn should be frequently examined for thrush, and the feet well cleaned out with the hoof pick, after which a little strong disinfectant—and any of the coal-tar products are good—should be applied with a syringe or a brush. This will, with proper care, eliminate the trouble.

Look frequently at the feet of the colts, whether on the pasture or in the barn, and remedy things before they get bad. Keep the toes trimmed down to the proper length and do not allow the heels to run over and get round. If the feet are kept rounded on the toe and of the proper length, the tendency to split and crack will be reduced to a minimum. In the stable the feet should be frequently cleaned and trimmed and the frog kept in its proper shape.



Although in this instance the barns were saved, experience shows that once a farm fire gets under headway the chances are favorable that it will make a clean sweep

## Paying Cash

By EARL ROGERS

**I**HAVE not been farming very long, but it seems to me that a lot of us do not think about some of the deals we make for time and for cash. Last year I did not thresh wheat until oats were threshed, as I could get the wheat in the barn. Thus I eliminated the expense of a few men in the threshing, but was without the use of the money that the wheat would have brought if I had threshed it from the field.

If I buy three tons of commercial fertilizer at an average of \$20 a ton, I can get a five per cent discount if I discharge the obligation in thirty days, and an additional two per cent discount if I pay cash. That looks good, but I can't raise the money, so I let it run the regular three months and then pay. If I had borrowed that money I could have had it a year for six per cent. Then I could have paid the bill with seven per cent discount off. The discount for cash would have been \$4.20, while the entire interest would have been \$3.60.

Sometimes we sell our crops at harvest for less than they will bring in a few weeks, just to get cash. Banks will help out gladly in just such a place.

There are times, of course, when a man's credit is stretched so far that he hesitates about borrowing any more until he can straighten things out a little, but usually this is not the case.

Buying machinery goes on the same system. We usually think it is cheaper to buy on time than to pay cash, because we haven't the cash. If we can get three per cent or five per cent or six per cent or whatever it may be by paying cash, then surely we are giving



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## Hastening Fruit-Ripening

By F. E. Brimmer

**A** FEW years ago I made a discovery that may be of some use to other truck farmers and small fruit growers. It so happened that a canvas tent was pitched on the north side of one of my peach trees during the time that they were ripening. I was much surprised to see that the fruit on this side of the tree ripened as quickly as on the south side, although trees near-by in the same row ripened their fruit much slower on the north than south side.

Since then I have experimented with white canvas screens placed on the north side of trees, also walls of wood painted white, and find that the reflected light from the sun against the white surface hastens the ripening. It is not necessary to have the reflector extend to the ground, only enough is needed to throw the sunlight against the fruit.

On the same principle I have ripened tomatoes several weeks earlier than my competitors. Semi-ripe fruit placed upon long shelves, behind which are placed strips of mirrors, will ripen quickly and evenly and need never be turned once they have been placed. Tin or any polished metal acts just as well as a mirror, and in fact anything that will easily reflect light. Thus Old Sol is made to do double duty for me—he shines on both sides of the fruit at once.

## Double Use of Hotbeds

By S. Thorne

**I** ALWAYS make it a practice to try to have the pits for the hotbeds dug before the ground freezes. The pits can then be roofed with refuse lumber, poles, or brush, and a covering of straw or corn stover placed over all to bar out frost and snow. Then, in February or March, it is an easy job to fill the pits with manure and place the frames and sash in position. The frames can be constructed and the sash got ready under cover during leisure winter days.

These same hotbed pits, I find, make excellent storage for cabbage, celery, and other vegetables, and even for apples and tomatoes, provided first-class drainage is arranged for the pits. If you have never made use of hotbeds, try one or more as an experiment and enjoy early green stuff a month or more before the gardening season opens.

The help of having an abundance of early plants for the garden that can be started and rooted in the hotbeds is alone worth the trouble of preparing for the hotbeds.

## My One-Third-Acre Garden

By J. F. Williams

**T**AKING "the run" of the seasons, I find asparagus to be my best money crop. Onions, however, are very profitable. In my one-third-acre garden I grow a great variety of vegetables and a few strawberries. I usually sell \$25 to \$40 worth of green onions each spring. They require but comparatively small space, are ready to begin selling very

early, and are finished mainly by June 1st, thus giving an abundance of time for one or more succeeding crops the same season.

Spinach has always paid me well in a small way if planted early. Peas also take high rank.

The past season has been a "hummer" for almost everything. Radishes, usually among the poorest sellers, were in constant demand. Time and again I had to shamefully admit I was "out." Even beets, which I've always counted about the poorest seller, have been cleaned up right along.

Early in May, Wife took the photograph showing five garden vegetables then usable, which we thought not a bad showing for central Illinois—winter and spring onions, breakfast and icicle radishes, head and leaf lettuce, asparagus, and spinach. The head lettuce was hardly large enough to be at its best at that time.

Tomatoes are my "best sellers." I had them in mid-July nearly ripe and of half-pound size. Earliana and Globe are my best early varieties, followed by Jewel, Matchless, Jackson, Pacific, Ponderosa, and nearly a dozen other sorts from time to time.

Next year I expect to plant a much larger area to asparagus and strawberries, as these crops—especially asparagus—seem to give the best money for labor expended.

## Prepare for Asparagus Now

**N**O FARM and farmer worthy of the name will now continue to be without an asparagus bed for home use at least. The plants for the new bed should be set just as early in the spring as the soil can be worked without injury. For that reason the plowing or spading should be done at least a foot deep before the ground freezes this fall. The soil cannot be made too rich to grow the best asparagus, so do not be afraid to spread a very heavy covering of good stable manure all over the plot early in the winter. As soon as the soil is fit to cultivate next spring, work in the manure thoroughly and deeply.

For growing green asparagus shoots, which are now being generally preferred, set strong one-year-old plants of some good variety like Palmetto 2x4 feet apart. Do every part of the work well, give clean culture, and continue to fertilize heavily, for a good stand of asparagus means eight to ten annual crops without resetting. Cut only very lightly the year after setting; the second year, moderately; then full cuttings in following years. No garden can now be considered complete without a thrifty supply of asparagus.

## Light, Heat, and Water

[CONTINUED FROM PAGE 3]

shut off any fixture without affecting the others.

I consider that modern lighting, heating, and plumbing equipment in a farmhouse pays not only in satisfaction but in time and labor saved. Formerly the time spent by members of our family for taking care of the lamps, stoves, and water needed in the house was more than five hundred hours a year, or about forty working days. That time is worth fully \$60 a year, a figure which is more than the interest on the cost of the equipment I have described. You can also look at it from a health standpoint, on which volumes might be written in favor of good lights, uniform heating, and sanitary waste removal. But the real reason why we put in the conveniences was this: I disliked to have my wife and daughters do the class of drudgery which the equipment eliminates entirely.



These five garden vegetables—onion, asparagus, radish, lettuce, and ready for selling early in May in central Illinois



# The Food Situation in France

By FRED B. PITNEY

THIS is the first of a series of three articles by Fred B. Pitney, a noted foreign correspondent, on the food situation in France. Mr. Pitney not only had at his disposition the official figures of the French Government on the food supply of France, but he has lived in France during the war and speaks from personal experience and intimate first-hand knowledge of the conditions there. Statesmen and politicians have had the mistaken belief that they are the only ones wise enough and strong-hearted enough to face the entire truth. Consequently, when the nation is hard pressed and its man power is low and food supplies nearing a low ebb, they wish to keep this information from the people and endeavor to reassure them with false hopes. Politicians have also officially denied reports of meager resources in order to give France greater prestige in peace councils. This, the writer shows, is a dangerous policy, since it results in conflicting reports and weakens confidence of the people in their Government.—THE EDITOR.

TELLING the truth about the food situation in France is an extremely difficult thing to do, for one comes immediately into contact with so many counter currents of opinion. There is no question in the mind of anyone conversant with the facts that it is not only with Germany, but with the Allies as well, that the food situation is serious and needs prompt and effective treatment. But in the endeavor to deal with this question you will constantly find in the official mind an attempt to reconcile two irreconcilable positions.

On the one hand, there is the open and full recognition of the seriousness of the situation, of the demand for prompt, full, and efficacious co-operation and co-ordination of effort among all the nations warring against Germany in order that each may be able to sustain its striking power at the point of highest efficiency. This opinion recognizes that governments alone cannot win the war. It must be a war of the allied peoples against Germany. And this opinion sees the necessity of laying the situation fully and fairly before the people so that they will voluntarily adopt the conservation methods necessary to victory.

On the other hand, confused in the same minds with this opinion there is an idea that if the people are told too much they will become frightened and will weaken. That is a bald statement, very plainly put, but that is what it boils down to. The statesmen and politicians have a peculiar idea that they are the only men who are far-sighted enough and strong enough to face the whole truth and go on fighting. So they try at the same time to arouse the people and to reassure them.

We find a fine example of this in the submarine. On the one side we are told that our efforts to overcome the submarine must be redoubled, while on the other side we are told the submarine is a failure and it is to laugh at the German threats. In regard to food we are told that the Allies must guard their every resource, and immediately on top of that we are told they have reserve stocks for the next three years. We are told that it is vitally necessary for America to put a great army in the field at once, and in the same breath we hear that the allied preponderance in man power over Germany is increasing every day.

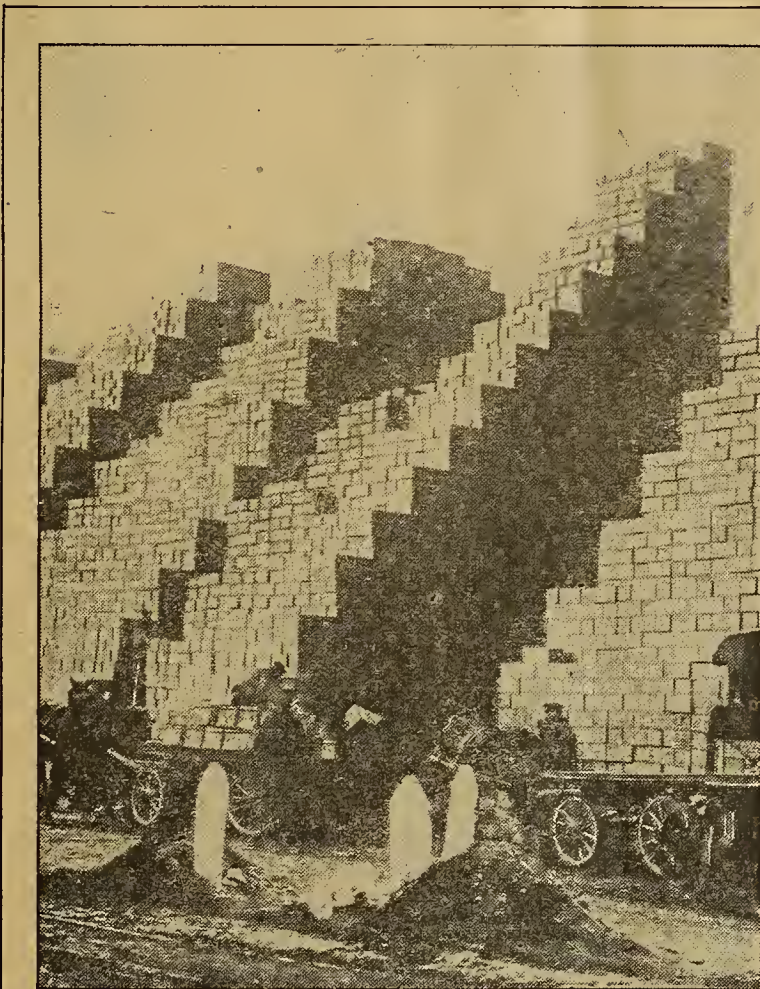
## People Should Know Facts

How can you expect to arouse a nation to war with such a stream of contradictory statements? My own opinion is that the peoples of all the allied nations are strong enough to know the whole truth, and that knowing it will only make them more determined and fight harder, while at the same time their collective action will be much more intelligent. I do not believe in any Government trying to win this war. I believe that only an aroused nation will be victorious. And I believe that the way to arouse the nation is to lay every

shred of fact fully and completely before the people.

In France, however, you meet with a third phase of official opinion that further complicates the situation. France has borne the brunt of the fighting on the side of the Allies for three years. Her resources in men and material have been strained to the uttermost, and everyone realizes that France cannot go on bearing the brunt of the fighting for another three years. Yet, French statesmen are so afraid of the possible effect at time of the peace conference of an admission that France needs assistance now, that immediately the idea is suggested there comes an official denial in one form or another. French statesmen, perhaps with reason, are obsessed with the idea that France will get an extremely short end of the stick at the peace conferences if there is a suspicion that she does not go into them stronger than she went into the war and able to fight on for another million years. But how is she going to get anything at the peace conferences if the Allies are not the victors? And how are the Allies to be the victors unless the people of America know the full truth about the task imposed on them?

This complicated situation makes it extremely difficult, however, to tell the truth about food conditions in the face of the imminent probabilities of thereby injuring susceptible official feelings.



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These great pyramids of cases contain food to fill the cupboard of one British army section in France

As I have kept house in Paris during the war, I can speak from experience on the food situation in France as it affects the individual. And let me remark in passing that one learns a great deal, when keeping house, of which one gets no inkling when living in a hotel and eating in restaurants. You can always go to a restaurant and order a meal and get it. I have heard many visiting Americans who lived in France in that way pooh-pooh the idea that there was a food shortage in the country. If those same persons had had to search the markets before they had their meals they would have gained a very different idea of the food situation.

Sugar offers an excellent concrete example. In a restaurant you are fairly certain of sugar for your coffee. Three lumps to a person is the rule. Formerly the sugar was put on the table in a bowl and you helped yourself. Now the ration is served to each person separately. Still, you are fairly sure of your sugar in a restaurant.

But if you are keeping house, you find that you must have a "sugar card," permitting you to buy a stipulated amount of sugar in a month. The allowance is one and one-half pounds of sugar a month if three meals a day are taken at home, one pound if two meals are taken at home, and one-half pound if only one meal is taken at home. This means for the person who takes three meals a day at home 18 pounds of sugar a year. The annual sugar consumption

per person in America is just 85 pounds.

You would not be likely to find this out if you were living in restaurants in France, but you find it out very soon if you are keeping house.

It is soon learned, also, that the sugar card does not mean that one can demand a pound and a half of sugar a month, but only that one is permitted to buy that much, provided a dealer can be found who has it to sell. A dealer who has sugar will not sell it to anyone who comes in. He sells only to his own regular customers.

## Butter \$2 a Pound in Paris

We paid last winter in Paris 11 cents a piece for eggs and \$2 a pound for butter, and there was frequently neither butter nor eggs nor milk to be had. Private families were allowed to buy one-eighth pound of flour at a time. The grocers could not sell flour, only the bakers. The flour mills could not choose their own customers, nor could the bakers and restaurants choose the mills they would buy from. Lists were made out, telling each miller to whom he could sell. This was in order that one section should not be able to eat up the stock of flour belonging to another section, or one baker deprive the customers of another, when all were short.

Let me give you the official figures on the wheat situation in France, so that there can be no question.

It is estimated that there will be a deficit of approximately 5,000,000 tons of wheat in France over the period from September 1, 1917, to September 1, 1918.

The normal annual consumption of wheat in France is from 9,200,000 to 9,400,000 tons. France has always been an importer of wheat, her average production for several years before the war being 9,000,000 tons, or slightly less than the consumption. Since the beginning of the war her production has fallen off radically. In 1914 it was 7,700,000 tons; in 1915, 6,065,000 tons, and in 1916, 5,840,000 tons, while for this year the crop is estimated at 4,000,000 tons, with a possibility of rising to 4,500,000 tons, leaving for the period from September, 1917, to September, 1918, a deficit of nearly 5,000,000 tons, which must be made up by imports.

Where can those imports come from except from America? Italy by reason of her position in the Mediterranean takes the first toll from the wheat of the Far East, while England, of whom the Far Eastern wheat-producing countries are colonies, takes the remainder. France can get a little from South Africa. Argentina has stopped the exportation of wheat. This country is the only re-

source left to France.

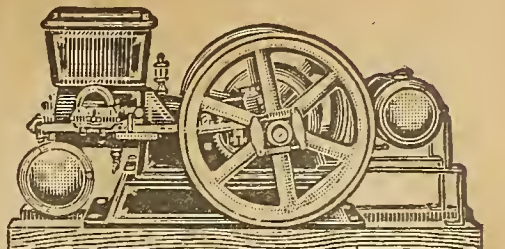
In the first place, it must be realized that there bread is the staple article of food. It is the base of all meals, especially among the working population. Bread and cheese will make an entire meal for a French peasant, with a glass of wine to wash it down.

The French soldier's allowance of bread was a trifle over a pound and a half a day. On account of the shortage of wheat it has been necessary to cut this ration to a pound and a third a day. And it is not necessary to say that only dire necessity will countenance the cutting of the soldier's ration.

I have in mind several letters from my friends among the peasants of Brittany, telling of the privations they were enduring because their bread was cut down so much.

One simple peasant woman, who can neither read nor write, gave without a word of bitterness her husband to her country, and she is now schooling her five sons and raising them for her country. The oldest goes to the army with the next class that is called out. When little Charlot, next to the youngest of her boys, writes for her and tells what they are enduring, there is no complaint, no bitterness. It is a simple statement of facts in plain and homely language, the story of a peasant cottage told to the child she nursed and loved.

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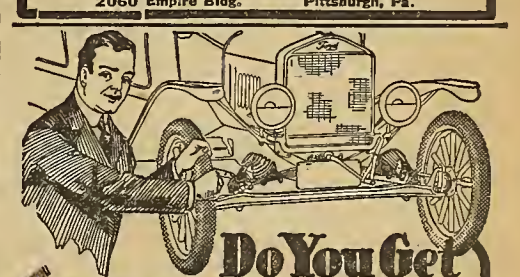
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October 20, 1917

## Will Our Prosperity Last?

THE Food Administration has presented some figures concerning grain and meat supplies which are of the greatest importance to everyone. In times of peace it is quite natural that we should forget that the teeming millions in Europe are dependent in large measure upon the United States, South America, and Australia for grain and meat. So smoothly does commerce run that we easily overlook the fact that the grain on our own acres or the steers in our own feed lot are likely to be sold finally in Liverpool, Hamburg, Rotterdam, Barcelona, or Trieste.

The number of ships available for carrying food supplies has been seriously depleted by the ravages of the German submarine, and by the use of many merchantmen for military purposes, and with what result to us?

First, that 120,000,000 more animals in Europe have been killed for food since the war began than have been raised, and that in consequence American, Argentine, and Australian beef and mutton are going to command high prices for years to come after peace is declared, at least until this huge depletion of live stock is again restored.

Second, that great stocks of grain in Russia, India, Australia, and South America, which in peace times automatically went to Europe, now are unavailable for lack of ships. Nations that previously had a full year's supply of foodstuffs stored within their own borders are now reduced to mere hand to mouth living.

Not only has the present enormous demand to be supplied, but after the war is over great stores of all grain foods must again be accumulated.

In other words, the urgent demand for meat and grain is going to continue until the world has caught up with itself again. The prosperity we now enjoy is not merely wartime prosperity, but will continue for several years to come.

## To Prevent Accidents

IN IOWA, with no large cities, 31 highway fatalities were reported during the first three months of 1917. This loss of life for January, February, and March—months of poor roads—seems unnecessarily heavy. In 26 of these fatal accidents the automobile figured. Four buggies were struck by trains, as was one bobsled. Nearly all of the deaths were caused by automobiles turning turtle or by being struck by trains. From this, one is led to believe that the drivers were speed-crazy, or that they failed to exercise ordinary precautions.

An Iowa quarterly record of highway accidents where no fatalities occurred is even more interesting. For the three months there were 517 accidents in which 456 persons were injured.

In these accidents 53 automobiles went over embankments, and 92 turned turtle.

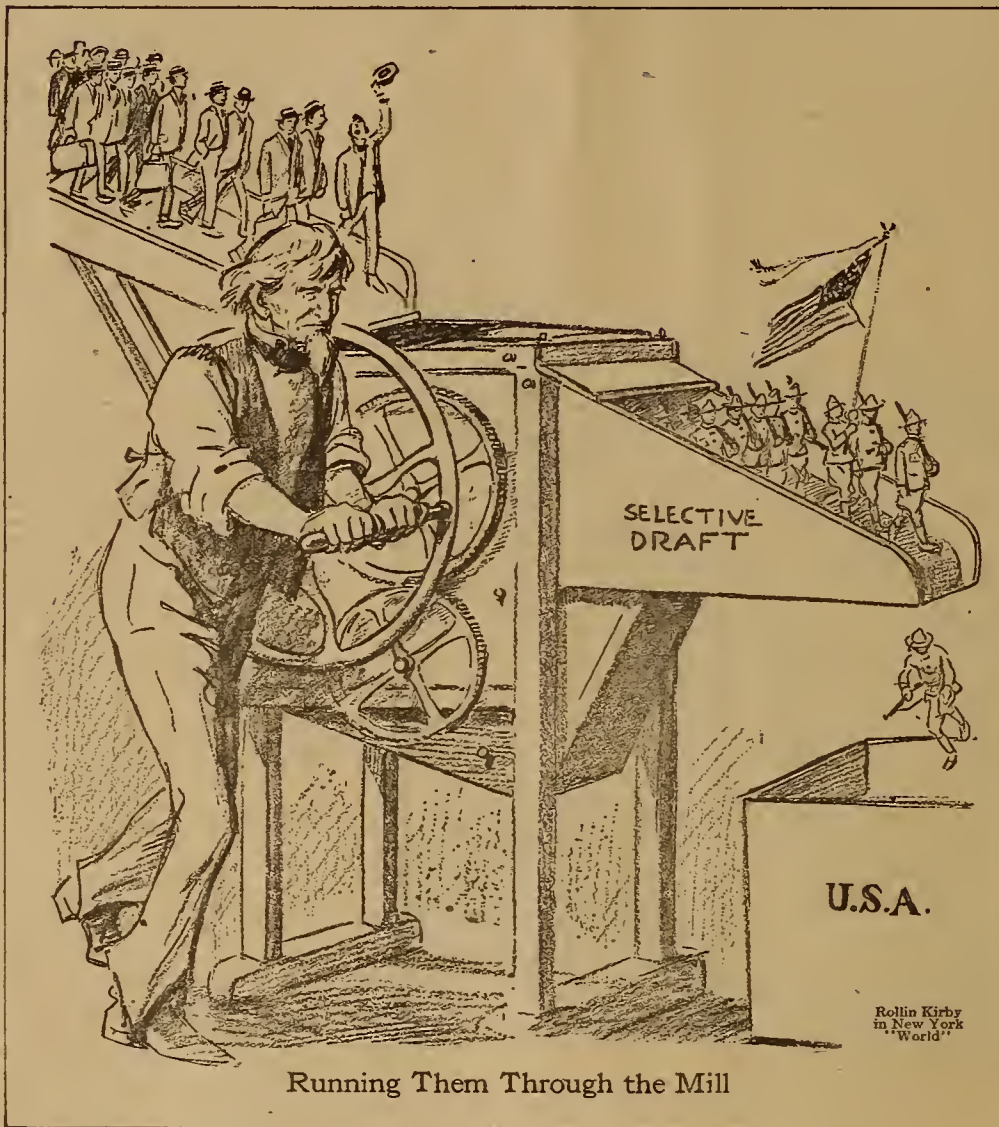
There were 85 automobile collisions. Thirty-five automobiles collided with buggies, 3 with motorcycles, 24 with street cars, and 4 with bicycles. Seventy-six people were struck by automobiles.

Life is too sacred for us to take unnecessary chances. It is just common everyday carelessness that converts too many automobile parties into funeral cortèges.

To "stop, look, listen" at the railroad crossings is a matter of but a moment, yet it may mean the difference between life and death. The man who exercises this precaution is fair to his family. He who is unduly careless should not drive a car, for in doing so he not only risks his own life but endangers others.

## Speeding Up the Freight

THE task of moving this year's output of freight with our present railway equipment will be nothing short of herculean. War activities have increased the freight business in England 50 per cent, and in France 100 per cent. Railway statistics show that there are about 40,000 fewer freight cars now available in this country than in 1914,



Running Them Through the Mill

but the carrying capacity of the lesser number equals or exceeds that of the greater number in use four years ago.

Traffic experts contend that the failure of the units of rolling stock—freight cars—to keep pace with business requirements is due to the difficulty of supplying adequate railway terminal facilities in the great railroad centers. The big drive now being made by railway officials is to persuade shippers to load more heavily and with the shortest possible detention of cars, and receivers to unload and release the cars equally promptly.

The three recommendations offered by railroad traffic managers for speeding up of freight in order to take care of our fall and winter military requirements successfully are helping to get much better freight-moving results. FARM AND FIRESIDE readers can do their bit by making these slogans their freight-shipping and freight-receiving gospel:

Unload every car at once. Don't wait for the free time to expire.

Load every car promptly. Don't wait nor use all the free time.

Load all cars to their visible carrying capacity.

## To Get a Supply of Roughage

BECAUSE of the fear of a shortage of roughage in the corn belt, many persons, without proper consideration of the problem, will ship in hay from the West and leave cornstalks to waste.

Dry years in the past have demonstrated that the greatest profit is derived from the cornfields when the stalks are utilized as feed also. The corn shock is a time-tried method of curing corn fodder as a substitute for hay. Many feeders figure that a field of shocked fodder from which the corn has been husked will feed four times as much stock as the ordinary stalk field.

The corn is cut and shocked before drilling wheat, and is husked after other fall work is done. When the fodder is run through a shredder it makes a good substitute for hay. It can be stored easily until needed.

The shredded fodder is more convenient to store and to feed in bad weather or late spring than the whole fodder, and it supplies about one fourth more feed.

If the hay crop failed to provide the amount of feed needed, there is no reason for worrying. Corn fodder can be made to come to the rescue so the stock will have plenty of roughage.

scrape the ends of both the fuse wire and live wires and connect them up. I take four dry-cell batteries connected together, connect one live wire to battery, make the other live wire touch the other end of batteries, and the stump is out. J. B. GEARY, Ohio.

## Fur Coat for \$17

DEAR EDITOR: A man who lived several miles away and was noted for the cruel treatment of his horses came to our house one night last winter to borrow a lantern.

He said: "Got a horse down up here, and he won't get up." Upon investigation it proved that the horse had a broken leg and had to be shot. The man told one of the neighbors that he could have the horse's hide if he would dispose of him so he would not need to come back.

The horse was fat, and the hide was in prime condition. After it was off, we bought the hide for \$3 and sent it away to a fur company to have it tanned, dyed, and made into an overcoat and mittens. The total cost of tanning, dyeing, and making up was \$13 and \$1 extra for the mittens. The finished garment was a nice, light, glossy black fur coat that would have cost from \$35 to \$40 in the city, and the total cost had been only \$17. Now horsehides cost more, but the finished coats also sell for more, so one can save in about the same proportion by this method.

Another man had a very nice warm coat made for his wife out of a horsehide, dyed black, and muskrat skins of his own catching were used for collar and cuffs.

MRS. M. KENNEDY, Michigan.

## The Water Cure for Bumblebees

DEAR EDITOR: Perhaps some of the readers of FARM AND FIRESIDE have had experience with bumblebees in hayfields and barns during harvest, and know how much inconvenience and danger they cause when their colony is molested. In this locality, when old hay or straw is left over in barns, the bees make nests in them—sometimes only one, but I have seen four and five nests in one barn.

I had some experience with them recently in old hay. Besides the hands getting stung badly, the horses ran away. But luckily the rack caught fast and held them until we unhitched, and no damage was done.

I tried what I call "the water cure." Take a kettle of boiling water and pour it in the nest either late at night or early in the morning, when the bees are about all in. The same method can be used to destroy yellow jackets when they are a menace.

I am always sorry to destroy these otherwise harmless insects, but when they are a menace to property, something must be done with them.

L. C. SHEPPARD, Virginia.

## Helps Community Grow

DEAR EDITOR: In a new community there are many needs and means of advancement to discuss. And the organization of a club or society affords the people an opportunity for talking over or debating all these questions.

As there were only a few families in our community in 1914, we saw the need of some way to come together for the planning and improving of our little town. We organized a Sunday school and had church services, all meetings being held in the schoolhouse.

To fill our social needs, an Improvement Society was organized, and it has proved the greatest factor in our midst for keeping the people together and interesting the young people. This is where we discuss our needs in this new, fast-settling country.

A program is given at each meeting of the society. We have debates to decide which is more profitable to raise, the dairy cow or the family hen; which is the best feed for cattle, alfalfa or clover; which is the best money crop, sugar beets or cucumbers; which is the best dairy cow; and many such subjects interesting to the farmer. We have music, readings, dialogues, tableaux, mock trials, and various other entertaining features.

Sometimes we have a speaker come from an agricultural college or experiment station. They tell us of pedigreed grains, money crops, clearing land, crop rotation, the breeding of better dairy cattle, the raising of corn, field peas, soy beans, the breeding of dairy cows and their care, milk-testing, and all these things we need to know.

The Wisconsin State Department has become our work, and offered us help in any way. They send us bulletins from time to time as they are printed.

We hope other neighbors may be helped by our example.

MRS. LUCY L. FERGUSON

nsin.

## Our Letter Box

### Out Come the Stumps

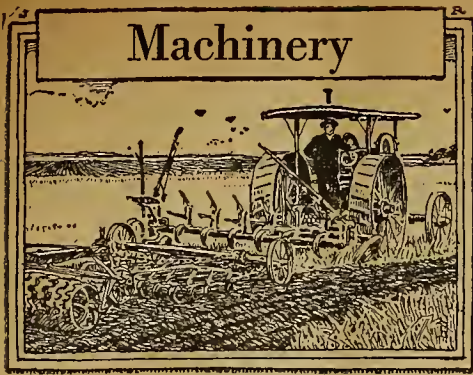
DEAR EDITOR: This is my method of blowing stumps: First I examine the stump to be blown, and if the surface roots spread out for quite a distance around and are quite strong I use either an auger and bore the hole, or take a sharp-pointed bar and drive the hole quite deep and past the center, so that the force of the charge will come straight up with equal force from the center. The reason for putting the charge deep on this kind of stump is that the force spreads out as it goes up and insures a better job. A few trials and a person can become a very good judge as to the amount of dynamite to use.

I use electric caps with four-foot fuse wire for firing, which is the cheapest to use. I take a soft pine stick and sharpen it smooth, punch a hole in the end of the dynamite, place cap in hole, loop fuse wire around near the end so it cannot slip off, hold fuse wire in one hand, drop fine dirt in the hole, and with a broomstick push it in light at first, until the hole is filled up on top of charge, about eight inches, then stamp firmly until filled.

I use about 150 to 200 feet of insulated wire. First I take my knife and



## Machinery



### Blasting "Hurricanes"

By Guy G. Means

A FEW days ago I was present at a dynamite demonstration on the farm of W. G. Cory, here in Louisiana. He is one of 160 settlers who have moved from the North to a 50,000-acre proposition, and found his first real work was that of clearing the land of stumps and pine logs. The logs are easy, being simply piled and burned.

The big problem in this particular section is to get rid of what are locally called "hurricanes"—the stumps of large long-leaf pine trees blown down. The accompanying picture shows typical "hurricanes." The stump in the foreground is only partly out and the long taproot still holds it in the ground. Mr.



The kind of land reclaimed by the use of farm powder

Cory had found it difficult to place his charges so that they would tear the stump up and at the same time get the taproot out to the desired depth.

A dynamite expert was present and loaded the stump. First he bored a hole in the stump just above the lateral roots, getting as deep a hole as possible in the taproot. In this case the auger refused to go farther than 20 inches. A 1 3/4-inch auger was used. Two cartridges, or about one pound, of farm powder were loaded in the hole. The first cartridge was slit and tamped in the bottom of the hole tightly. The hole was one-half inch larger than the cartridge, and the explosive was forced down to the bottom of the hole.

The primer (cartridge containing the blasting cap) was cut in half, and the unprimed part slit and packed in on top of the first cartridge. The primer was then placed in the hole and the hole tamped to the mouth with good stiff, moist clay. We were nearly all surprised at the thoroughness with which the demonstrator insisted in tamping the charge.

After the fuse was lighted and the dull report again surprised those who thought a loud report necessary to the use of dynamite, we found that the top of the stump was thoroughly shattered, that the dirt had been knocked off the roots, and that the taproot was shattered completely. The whole thing was in first-class shape for burning in the field or for turpentine wood or firewood.

The points brought out by the demonstrator were the value of proper tamping; that the moist subsoil clay from the bottom of the hole from a previous shot is often the best tamping material to be found; that where it is hard to get a sufficiently deep hole, to use a larger auger in order that the entire charge may be placed as compactly as possible near the center of the stump. A high-grade and expensive dynamite is not necessary. The less fireworks about the shot the more the blaster gets for his money in work done.

### Removing a Stubborn Nut

By E. V. Laughlin

SCARCELY anything is more tantalizing than trying to remove a nut from a bolt that turns in its socket. The following method will almost always overcome this difficulty and enable the nut to be screwed off with comparative ease: With a cold chisel make an incision in the head of the bolt similar to that found in the heads of screws. Often the chisel incision is sufficient to enable the screwdriver to get a good grip; sometimes, however, it may be necessary to deepen the incision with a

file. Frequently the chisel itself answers very well for a screwdriver. Thus gripped it is a comparatively easy matter to start the stubborn nut.

Saturating the threads of the nut with kerosene a few minutes before attempting to unscrew it, often makes the attempt easier, for the kerosene penetrates quickly to the rusted recesses of the nut and softens the rust quite perceptibly.

If for any reason it is not advisable to indent the nut head with a cold chisel, opposite sides of the head may be filed away slightly so as to enable the wrench or vise to get a flat grip. With a sharp file it is only a moment's task to file away the small bit required to do this. The writer has removed very stubborn bolts by both of these methods, and can recommend them as great savers of temper and time.

### Machinery for Bean-Raising

By H. J. Thomas

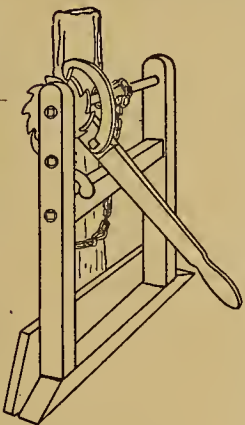
"WILL ordinary corn land grow a good crop of beans? What machinery is needed to take care of the crop, and how is it harvested?" These questions come from Michigan, where bean-growing has become an important industry.

Beans may be expected to do well on any well-drained soil, but they seem to prefer a sandy or gravelly loam of fair fertility. Too rich a soil will favor the growth of too much vine and the beans will not ripen uniformly. The seed is usually planted with a grain drill, but when the crop is to be grown in hills it is best to use a corn planter equipped with a bean plate.

A shovel cultivator is needed for the three or four cultivations the crop requires. For harvesting there are several kinds of machinery, of which a special bean harvester is best, though a mower equipped with a bunching attachment may also be used. The only satisfactory method of threshing bean crops of considerable size is a bean thresher, which may also be used for peas. They are made in various sizes some of which may be operated with two men and a small gas engine. Such a thresher will thresh from about eight to twelve bushels of beans an hour, depending on the amount of vines.

### Ratchet Post Puller

By Orin Crooker



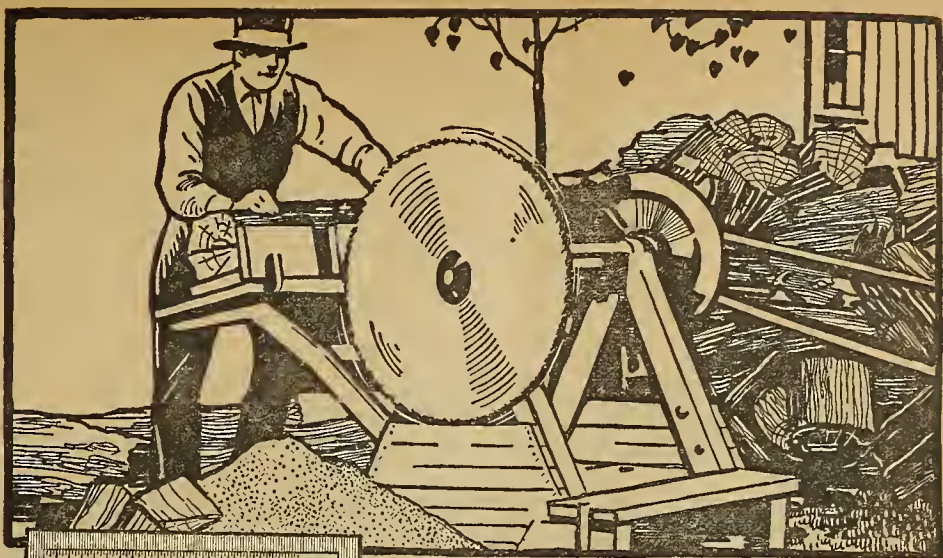
HERE is a home-made post puller which will pull any post, no matter how deeply or how firmly set. It consists of a heavy wooden frame which supports an iron axle to which is attached a short length of heavy chain terminating in a hook. A ratchet wheel, shrunk upon one end of the axle, works in connection with a pawl fastened to the base of the handle of the device.

By this means motion is communicated to the axle as the handle is operated, and in consequence the chain is wound up. Another weighted pawl on the inside of the frame just below the ratchet wheel prevents the latter from turning backward.



This puller "pumps" the post out of the ground

By attaching the chain to a post as shown in the picture, it can be literally "pumped" out of its position. The amount of physical strength needed to dislodge a firmly set post with this device is surprisingly little.



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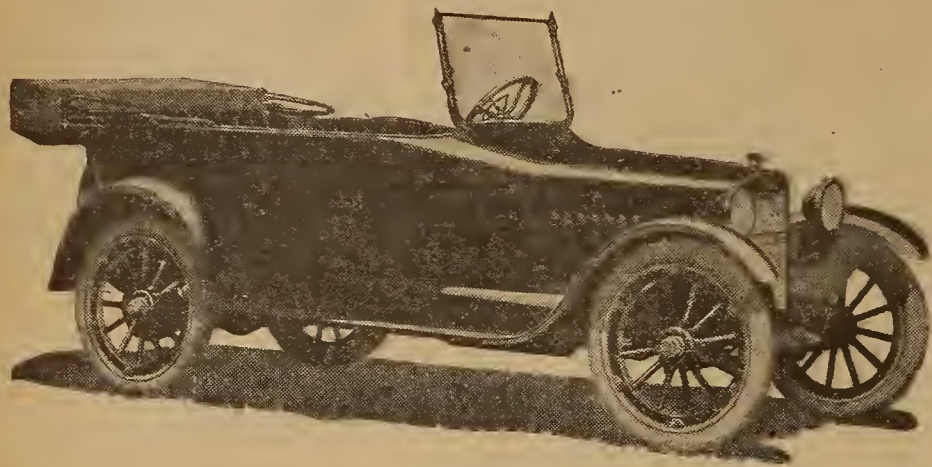
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ing in price from \$1,350 to \$3,000.

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### Automobiles

#### Truck Gives Good Service

By Jim Pierce

OUR farm is in the Ozark Mountains in southwestern Missouri, and we have some of the finest roads and also the roughest roads in the State. The nearest market towns are Joplin, 24 miles; Webb City, 27 miles; and Carthage, 21 miles. Our closest trading place is a small town 3½ miles away.

Being wholesale gardeners and raising tons of produce, such as sweet potatoes, cabbage, cantaloupes, tomatoes, etc., we found horse hauling too slow and expensive, and concluded to try a motor truck. We have two very steep hills, but thought that if horses could pull loads up them a truck could also.

So finally we purchased a truck made by putting a truck attachment on the chassis of a 1913 model automobile. There was no seat or windshield, not even a horn. But it looked pretty good to me with its heavy back wheels and heavy springs, with a strong cross spring to catch any overload. Well, I paid \$500 for it just as it looked—prices have advanced somewhat since then. The salesman had it greased, put oil in the crank case, and filled the tank with gasoline.

#### Proves Unwise to Race

I hunted around and found a box that would fit upside down over the tank for a seat, cranked the motor, climbed up on my box, and started for home with my feet sticking through the frame. It took me just two hours and twenty minutes to drive 27 miles home. The truck attachment has solid tires and stiff springs and, when empty, it doesn't ride like a touring car, especially over rough roads. But you are not supposed to race with it. It is built to go slow and haul heavy loads. We have hauled over three tons at one load with our truck, up and down the hills mentioned, without any difficulty, and on level roads we "idle along" with such a load on two notches of the "gas" quadrant. The frame is probably strong enough to hold five tons, but as the outfit was sold to us as a ton truck we know that if we overload we do so at our own risk.

The bed of the truck we made ourselves, since we could not get one of the right dimensions for carrying fruit and vegetable crates. It is five feet wide and nine feet long inside, giving a good loading space. The rear axle is almost directly under the middle of the bed, so the entire load is really carried on the back wheels.

On hard roads we have had no trouble at all hauling all we cared to load on, but it is not a very good plan to try to go through soft mud with big loads. On one occasion we had to go over two miles of new road that had never had enough rain to pack it well. To make matters worse, the weather a few weeks before had been alternately freezing and thawing. We had a load of 1,000 pounds, and for a mile and a quarter the wheels went in so far that the back axle dragged part of the time. But we pulled through on low gear.

In the garden business, as in any other line of farming, speed counts for a good deal. If you do your work well and have speed, you are in a fair way to success. Formerly it took us two days to go 27 miles to Webb City with a team, deliver a load and return. But with the truck we start at three o'clock in the morning and are back by two or three in the afternoon.

The truck has a speed of 15 miles an hour, but we hardly ever run faster than 10 miles. Most always we carry a two-ton load. Learning to drive a truck is just the reverse of breaking a colt. The future of a horse is in the breaking. He must be handled with care. You must see that the harness fits right, that he is not excited, use kindness rather than force, and give him lots of attention.

But in running a truck the driver is the one who has to be broken in. He must study his car. I would suggest that he study the ignition system first. While everything comes out of the factory in good shape, there are little things that sometimes get out of adjustment.

#### May Have Trouble at First

If we understand the ignition system, anything that gives trouble can be fixed in just a matter of a minute or two. No man should buy a truck or car and not expect to have some trouble with it, especially the first month or two. A few things are very necessary. See that you have plenty of "gas" and oil. See that all bearings are oiled, that the grease cups have been filled. When the truck is running every day, go over it at the end of each week and tighten all loose nuts.

Here are also some "don't's" that are just as important: Don't fool with your truck when it is running properly. Don't crank with the spark advanced. Don't race your engine too hard when it isn't pulling. Don't start on a trip without water in your radiator, oil in your crank case, "gas" in the tank, and some money in your pocket. Don't try to make other truck drivers eat your dust; remember, you have a truck, not a racer. Don't run fast over rough places; use low gear if very rough. Don't coast down a steep hill with your engine engaged; there is nothing that will loosen things quicker than to let the truck crowd your motor.

Even though you are running a piece of machinery, use good horse sense. Treat your truck with the same care that you would give your best horses and you will have little trouble. Our truck does the work of three teams at half the expense, and about one third the amount invested.

#### Radiator Sweats

"SOME mornings," writes a car owner whose observation is keen, "I find a small pool of water under the radiator of my car as it stands in the garage. It is about as much water as a person could hold in the palm of his hand. Other mornings the floor is perfectly dry."

The surest method of determining whether a radiator leaks is to fill it to the top of the overflow pipe, then allow the car to stand 24 hours and see whether the water level falls. If so, there is a small leak. But if not, and water drips from the radiator while the car is standing in the garage, it is simply moisture of condensation. To use a simpler expression, the radiator sweats. The amount of sweating depends on the dampness of the air and the difference between the temperature of the air and of the water in the radiator. Sweating generally occurs under conditions which cause a heavy dew out of doors.



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## Live Stock

### Feeding Fall Litters

By James Blaine

**P**IGS raised by a mature sow get a better start while young and give greater profits than the pigs from a young, immature sow. To increase the number of brood sows by selection from last fall's litters, one should choose the thrifty, broad-chested sows and leave out the narrow-chested, pinch-bellied ones, to be prepared for a market for a convenient season.

Pigs sired by mature boars are generally larger and more thrifty while young than those sired by immature boars. It is expected that the fall pigs will be farrowed as early as October. At that time the sows with their pigs should be allowed to run in the open where there is an abundance of green feed, clover, alfalfa, rape, or rye. If the sows are fed sloppy feed at that time they will give a liberal amount of milk.

When the pigs are about three weeks old they will want to eat more than the milk they can get from their mother. A small shallow trough should be placed where the sow cannot get to it. Scald some middlings, stir and pour in some milk; if the milk is sweet, all the better. Put into the feed about a tablespoonful of molasses. Drive the little pigs carefully over the trough. They will get the odor from the molasses, put their noses to the feed, lap it, and begin to eat.

It will not be necessary to drive the pigs to the trough again. They will go to the same place the next day. They should be fed some warm feed twice each day. If any feed is left in the trough it may be put where the sow can clean it up. Always feed the pigs in a clean trough.

After feeding the pigs in this way for a week or two, coarser feed can be used, and sour or butter milk in the place of sweet milk. But one should continue to scald the grain feed and feed the pigs while it is warm. Increase the amount of the feed as the pigs grow.

Pigs fed in this manner should weigh 50 pounds at weaning time, when they are about eight weeks of age. If the warm feed is continued, there will be no check in the growth by taking the sow away from them.

Always give the pigs a warm, dry place in which to sleep. Do not allow much air space above the nest. Give an opportunity for an abundance of exercise and a variety of feed. It is practicable to push them to popular market weights by the time they are seven months of age. The gains are made more cheaply before that time than it is possible to make them after that age. As true patriots we must not miss planning for the fall litters, and when they arrive we should make the most of them.

### To Have Healthy Hogs

**C**HOLERA, parasites, and pneumonia are some of the worst troubles hog raisers have to fight in the fall and winter. The parasites, or worms as they are commonly called, are always with the hogs more or less. Pneumonia may be prevented by keeping the hogs from taking cold.



When alfalfa is cheap it may compose the entire ration of the flock, otherwise the ration should be cheap roughage, such as straw and fodder

Hogs are kept for years on the same lot—generation after generation—until the soil becomes saturated with the different parasites and their eggs. With such surroundings a hog is certain to be affected. The animals look scrawny, and cholera is blamed for their condition.

Sanitation is the foundation of successful hog-raising. A hog lot should be plowed frequently, and thoroughly disinfected. Every two or three years the lot should be changed to a new location. A hog is not dirty in its habits. If given half a chance it will keep clean.

One thing few persons know about a hog: it requires twice the breathing space for its weight as a horse or a cow. A hog can stand only half the exposure. Its fat may seem like a blanket, but the blood is the heat of all animals. A hog gets chilled easily because of the poor surface circulation, contracts pneumonia, dies, and cholera is credited with another victim.

A simple remedy for worms is a mixture of wood ashes, salt, and air-slaked lime, mixed about equal parts. It will not do the hogs any injury if allowed to eat all they wish. This mixture will also help to tone the system.

### Calk Shoes on Draft Horses

**I**N WINTER weather it is necessary to shoe the draft horse so as to prevent falling and injury to the animal. This is best done by using a calk shoe with a heavy toe and heel. This will prevent the horse from falling. A riding or driving horse should not be heavily shod. Care should be taken that the calks do not protrude, for there is danger of injury when the horse is trotting.

The shoes should be examined frequently to see if the calks are adequate for the work the animal is doing. When it is necessary to shoe the horse with heavy calks, special attention must be given to setting the heel calk so that there will be no danger of injury to the animal.

### Alfalfa for Sheep

**A**LFAFA, if carefully fed and pastured, is one of the best roughages for sheep. The rapid increase in the production of alfalfa in the United States during recent years has resulted in a more careful study of its possibilities as a food for all classes of live stock. Formerly it was used primarily as a cattle feed, but now it is used as a feed for horses, swine, and sheep.

When alfalfa is pastured, great care should be taken to prevent bloat. If the alfalfa has become woody or is mixed with other grasses the danger is somewhat lessened. Before turning the sheep on alfalfa they should be filled up on hay, fodder, or other roughage, and turned out only when the alfalfa is free from moisture of any kind.

Sheep should never be allowed to pasture more than a short time the first day. The length of time should be increased a little from day to day until the sheep are accustomed to the feed. Flockmasters have found that it is never safe to give sheep free access to an alfalfa pasture.

The amount of alfalfa fed will always depend on the price and the amount available. When it is cheap and plentiful and other roughages are scarce, alfalfa could compose the entire ration of the flock. On the other hand, when hay is scarce and high in price, the ration could be made up of straw, fodder, and like roughages.

In experimental trials, averaging 100 days each, alfalfa was compared to timothy and prairie hay. The lots fed alfalfa made greater gains and required less feed per 100 pounds than did those fed prairie and timothy hay.

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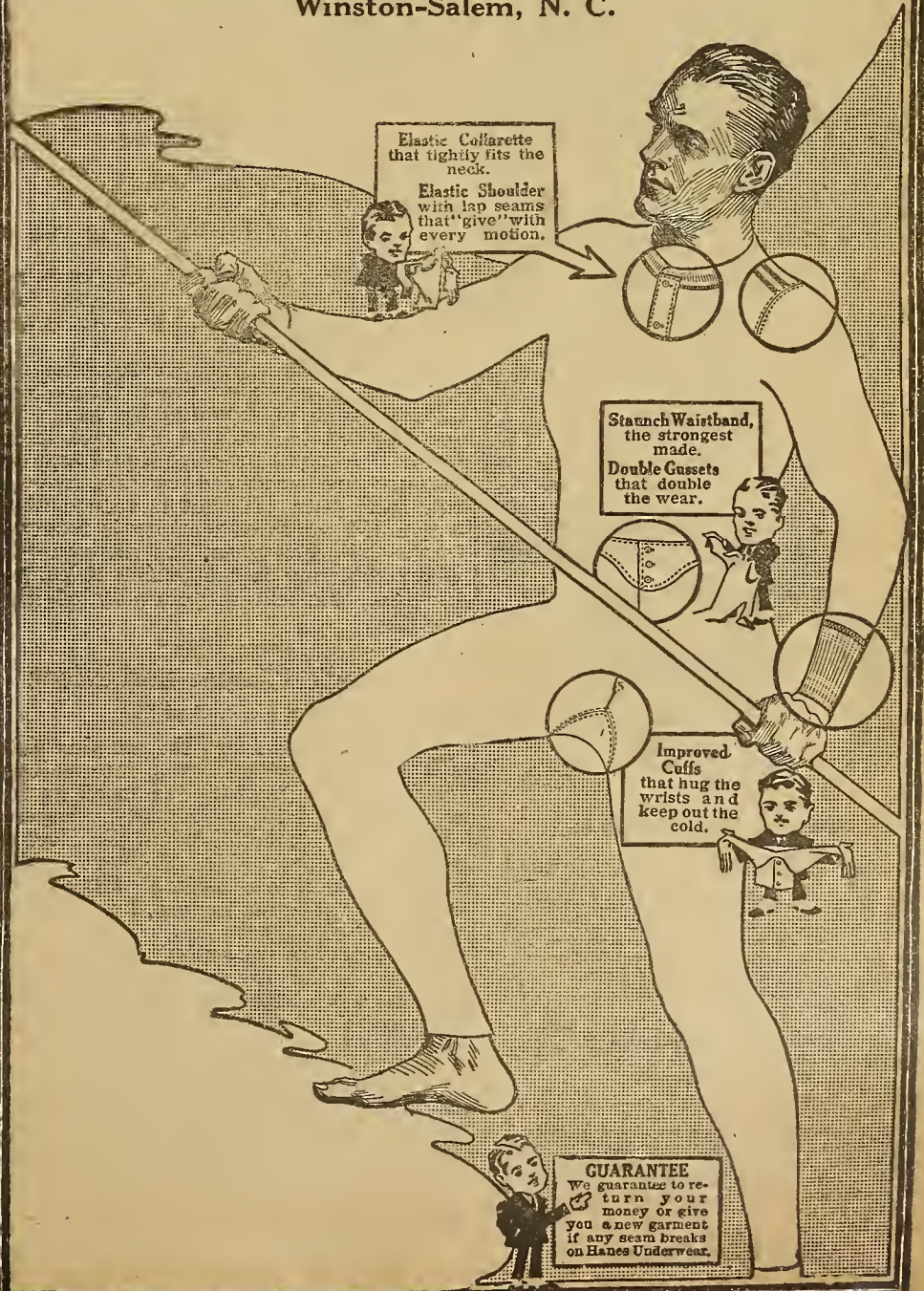
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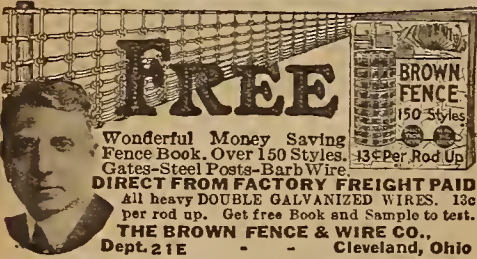
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## Dairying

### Butter-Making Benefits

By Chas. E. Richardson

"WHAT is the advantage in having the butter-making branch of farming the principal part of your business? And why do you think dairying is the most important feature of agriculture?" These are questions that I am asked over and over in the course of the year. I will endeavor to explain why making butter and keeping live stock appeal to me.

There was a time when I thought this matter over very carefully. I was trying to decide just how I was to make the most out of my farm and at the same time keep up the fertility of it.

I found by study that when different products of the farm were sold, a certain amount of fertility was sold with them, about as follows: One ton of wheat contains about \$7.75 worth of fertilizing constituents; one ton of corn, \$6.75; clover, \$9.07; milk, \$2.09; and butter, 50 cents' worth.

If one ton of clover hay is sold for \$20, there is a loss of \$9.07 in fertility, leaving an actual return of only \$10.93, out of which must come the cost of producing the hay.

One ton of butter, if sold for 30 cents a pound, brings \$600. And the loss of 50 cents in fertility leaves a return of \$599.50.

And so I could keep on indefinitely, giving figures to show why butter-making is profitable financially, compared with selling most other farm products.

Then there are other important reasons why butter-making helps toward good farming.

Cows are higher priced than ever. Therefore it is more important that the heifer calves be raised. Where whole milk cannot be obtained, skim milk seems to be the best substitute for calf-feeding. This is not to be had where whole milk is sold off the farm. Probably the best argument for making butter on the farm is the fact that there will be a good supply of sweet skim milk for feeding calves, and butter-milk also.

At five different experiment stations it was found that the cost of raising calves was as follows:

On warm whole milk the cost per 100-pound gain averaged \$7.06; cold, \$8.16; hand-skimmed, \$12.09; warm separator milk, \$2.22.

By a system of proper rotation and the feeding of dairy cows, there is no other branch of farming by which the fertility of the soil is so well maintained. About 12 tons of liquid and dry manure are produced by the average cow each year. If that is valued at \$2 a ton, \$24 worth of fertility is returned to the soil each year. In all countries where dairying is the principal kind of farming, the soil is generally of high fertility.

### Cottage Cheese and Meat

By H. R. Grabill

A PLAN to convert the surplus skim milk of dairy farms into cottage cheese as a substitute for meat during wartime has been suggested by experts of the U. S. Dairy Division. In discussing this matter, Mr. Helmer Rabild, who is in charge of federal dairy farming investigations, makes the following useful suggestions:

"One of the important items of the food ration for the armies is meat. At the present time we consume in the United States about 180 pounds of meat products per capita annually. This is about 50,000,000 pounds daily. In order to be able to supply the armies with a sufficient quantity of meat and at reasonable prices, it would be necessary for us to curtail our consumption of this product. We must change our meat diet here at home.

"Cottage cheese is about equal in food value to meat, and it is planned to employ dairy specialists to work with domestic science workers in the various States to teach them how to make a

palatable cottage cheese. The domestic science workers will, in turn, teach the farm women, and as this work develops there will be a sufficient surplus of this substitute for meat so it can be used in near-by towns and cities.

"There are approximately 6,000,000 dairy farms, or farms on which dairy cows are kept, in the United States. If every farm family should consume one pound of cottage cheese per day, this would amount to 6,000,000 pounds a day, and it would be possible for them to get along with 6,000,000 pounds less of meat. This would make it possible to release about one tenth of our daily meat consumption for the use of the armies. This would be the kind of food conservation we need to enable us to furnish our allies with the food they need.

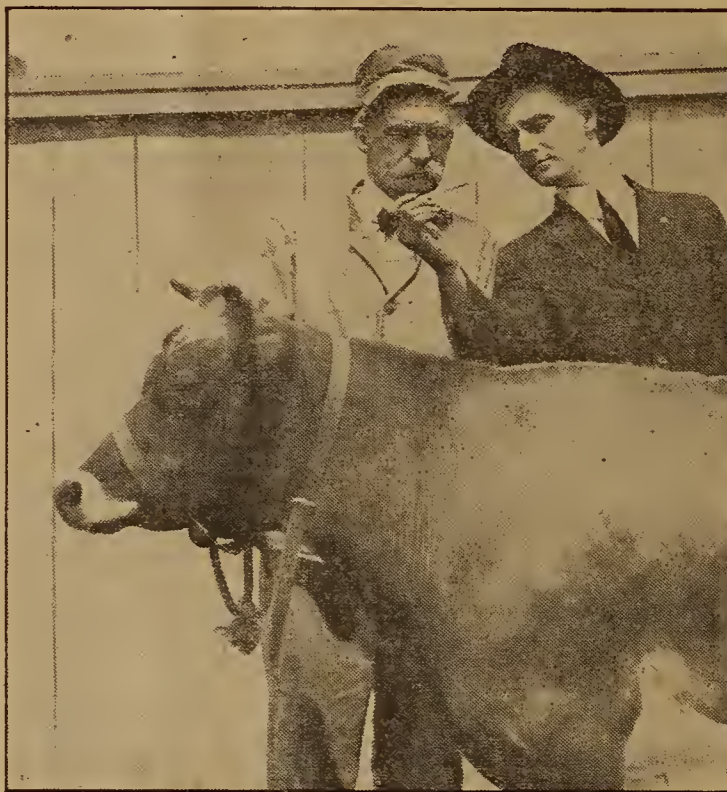
"It is planned also to carry this work into the creameries and milk plants. If the skim milk and buttermilk incident to the manufacture of creamery butter were taken care of, they could be used in making annually approximately 2,000,000,000 pounds of cottage cheese, which in food value is equivalent to a similar amount of meat."

### Useful Dairy Arithmetic

By John Coleman

IT IS easy to find how much cream and butter can be produced from a given quantity of milk, and everyone who sells cream or makes butter ought to know how to do it. As an example take a cow giving in one month 40 gallons of milk of which four per cent is butterfat.

To find out how much cream and how



The successful dairyman has his cows tested to be certain they haven't tuberculosis

much butter can be produced from a month's yield of milk the gallons are first reduced to pounds, which is done by multiplying by 8.6. Thus 40 gallons of milk equal 344 pounds. In this milk there are 13.8 pounds of butterfat, or four per cent of the whole. To find the quantity of cream this milk will separate to, the pounds of butterfat (13.8) are divided by the percentage of cream desired. If a 30 per cent cream is desired, then 13.8 is divided by 30, and the result (.46) is the number of pounds of 30 per cent cream that can be obtained from 344 pounds of four per cent milk.

To find the amount of butter, merely add to the quantity of butterfat one sixth of itself. In this case we would add to 13.8 one sixth of itself, or 2.3, which would give 16.1 pounds of butter to be obtained from 344 pounds of four per cent milk. The one sixth is added to allow for the curd water and salt which are added to butterfat in making butter. This is on the basis of a 16 per cent overrun, which is a fair average for farm-made butter. Expert creamery butter-makers, however, working with large quantities of cream and modern equipment, frequently secure a 22 per cent overrun.

### Parcel-Post Perseverance

SOME farmers have the idea that parcel-post marketing is a hoax. They tried it for a month or two, expecting great results, and were disappointed.

We are all so inconsistent! No farmer would expect an inexperienced city man to more than break even his first season on the farm. Yet farmers get discouraged and give up when two or three little newspaper advertisements do not bring a flood of orders. Do not blame the parcel post for failure in such cases. Blame poor advertising ability; blame inexperience; blame lack of persistence.

### Age to Breed Heifers

By O. A. Choate

I HAVE had a number of years of experience in raising and developing dairy heifers, and have found it best not to have them freshen before they are two and a half years of age. I have had heifers freshen at from one and a half to three years old, but those calving while young have been hindered considerably in their growth and development and have not made as large cows as those freshening at an older age.

I have also seen heifers which dropped their first calf at a year and a half of age mature very satisfactorily and make splendid cows, but they took one to two years longer in maturing. These cases of course are rare. In freshening at two and a half to three years of age the heifer is more matured, and therefore in condition to milk much better than if younger.

### Cream-Shipping Problems

By Mary C. Blue

TEN years ago few cream cans were seen at the railroad stations, but now dozens of cans may be seen almost any day around the stations here in Henry County, Ohio. The centrifugal cream separator has encouraged this method of marketing cream. Nearly all farmers, even renters with only two or three cows, have some kind of a separator which is usually a good investment.

In our neighborhood, cream is shipped to at least nine different creameries in near-by cities and there is only one objection to this form of marketing so far as I have observed. None of these

creameries grade the cream, and farmers also are opposed to grading. Consequently, old, sour, bad-smelling and bad-tasting cream is worth as much per pound of butterfat as clean, good-flavored cream. The bad cream is due partly to keeping it too long, and partly to carelessness in washing the separator.

The creamery company to which we ship begs, implores, and entreats its patrons to wash the separator after every time it is used. Everyone knows the slime in a cream separator bowl is offensive and should not be allowed to stand overnight and remain in the bowl when the morning's milk is skimmed. Still this is commonly done. We have found it much easier to wash the separator twice a day, since it washes a great deal more easily. It is not economy to let a valuable machine like a separator rust. And with careless treatment it will rust sooner or later, and usually sooner.

Another rule our creamery asks us to observe is, "Don't use soap on dairy utensils, and when they are clean scald with boiling water, not simply with hot water." When

we first sold cream we kept each milking by itself until we were ready to ship. By this method we thought we could keep the cream sweet longer. But our creamery company has proved that we were wrong, and now we follow their method. They advocate that to keep the cream from souring too fast it must be kept cold and the new cream should be added to it twice a day. To cool it we place the can in cold water immediately after separating, and stir thoroughly. This removes the animal heat, which is very essential.

When fresh cream is added to the sour, it helps to sweeten the older cream, and in this way all of the cream is nearly sweet when ready to be shipped. But never mix warm cream with cold cream, as that will hasten souring. Another important matter is to stir the cream frequently to avoid lumps. Unless this is done, how can a uniform sample be taken for testing, and how can the test be honest unless the sample is accurate? A sample which is not uniform is more often the cause of dissatisfaction with a test than intended dishonesty on the part of the creamery.

So we could have a uniform sample we purchased a cream stirring rod of the kind creameries use. It has a broad lifting surface that brings the bottom cream up and mixes it with the top, giving a fair test.

This cost us only 30 cents and it has probably paid for itself on more than one occasion by stirring just one can of cream. Compare the lumpy, chunky cream, sour at the bottom and sweet on top, with a can of smooth, velvety cream of the same quality throughout. Cream cannot be stirred with a spoon or ladle, as this simply stirs the cream around and around in the can without mixing what is in the bottom with the last emptied into the can.





## Farm Building

### Automatic Coal Supply

By A. L. Roat

"CITY boarders," remarked Mrs. Farmer, wiping her hands on her apron, "do have some bright ideas."

Her neighbor, Mrs. Smith, eyed her with interest. "Tell me?" she asked pointedly.

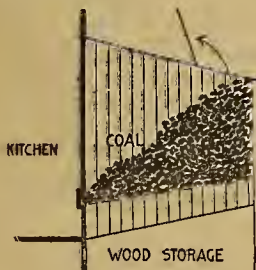
"Last summer when that Surch family were here, Mr. Surch was poking round continually. He was a good sort, always willing to do an odd job. Carrying coal, one morning, he bumped his head on the cellar rafters. You know they are a bit low."

"He came up-stairs rubbing his bald head. 'Mrs. Farmer,' he began in a slow manner, 'why don't you keep the coal outside the kitchen door?'"

"And have it soaked with the spring rains and sloppy with the winter snows to put out the fire?" I inquired.

"He just smiled and walked to the kitchen window. 'That will not be necessary if you build a coal bin as I suggest.'"

"Certainly I was interested. You know yourself it is a man's job to lug a heavy hod of coal from the cellar several times a day."



"And in a few minutes Surch had sketched a drawing of a coal bin and showed it to me. Of course, I couldn't understand it, but he offered to build it himself, so I agreed to supply the lumber. He used old stuff that was piled in the shed."

"What a help and drudgery saver it has been to me! All I have to do when I need a hod of coal is to lift a lever and the bucket is filled in a jiffy, with no trip to the cellar and lugging a heavy load up the cellar stairs. Indeed, it is a wonderful improvement and it cost only a little labor."

"First he measured and marked a square on the kitchen wall where the opening was to be, and cut it through the wall. Then he built a framework of 3x4's outside the kitchen and laid a floor in the bin so the coal would slide toward the kitchen from the back and both sides. Then he boarded up the sides and put a lid top on it so the coal could be dumped in that way. And the lever lifts the door on the inside of the kitchen and the opening is raised high enough above the floor so the coal bucket will stand under it."

"When the lever is lifted the coal flows, and is cut off by pushing down the lever. As the floor of the bin had to be several feet above the ground outside the house to make the coal flow down-grade into the kitchen, it left a good-sized space where I store wood, another handy convenience for a busy housewife."

"Mr. Surch told me the inside of the bin had to be 6x6x6½ feet to make 234 cubic feet, which divided by 39, the number of feet in a ton, would give ample space for six tons of coal. Of course, any size bin can be arranged to suit the quantity desired by following that same rule."

### Lattice Work for Porches

By Wm. E. Curley

THE subject of lattice work for our porches has vexed most of us at one time or another. If the lattice is built to reach all the way to the ground, it gets splashed with earth every time it rains and, what is more serious, the bottom rail soon rots out. If, however, it is built to clear the ground the chickens crawl under the porch.

To give a real finish to your porch, as well as to prolong the life of the lattice, a very thin concrete base or curb should be put between the porch piers. This wall should be not less than three inches and not more than six inches above the grade line. A convenient width is about four inches. Its foundation should, however, go below the frost line and

may be either of concrete the same thickness as the wall itself, or may be a so-called dry-wall foundation. The latter will be cheaper than concrete if stones are plentiful. Simply dig a narrow trench between the porch piers and fill it up with stones well rammed. Set the forms and pour the concrete directly on the stone foundation. This little concrete curb adds wonderfully to the appearance of a porch. The lattice frame is built to rest directly on this base.

I have in mind one very nice country house that was built on ground subject to washing. As dirt for grading purposes was scarce, the lawn was graded up to, but not under, the porch. As time went on, the lattice which had originally been built to reach down to the grade line seemed to shrink. Little by little the grade line settled as the earth gradually worked back under the porch. Finally the little concrete wall described above was put in up to the level of the bottom of the lattice and the trouble stopped.

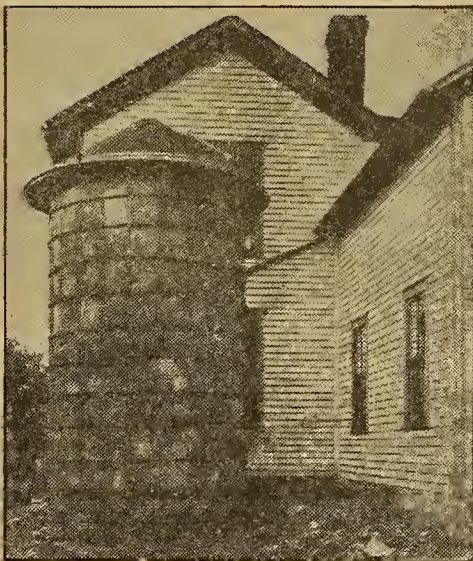
The old diagonally slatted lattice is being replaced by vertical and horizontal strips, and no longer is it necessary to smooth laths for lattice strips. These can now be bought, already dressed, in long lengths from any lumber yard or dealer in millwork. This vertical and horizontal method of striping makes a lattice much more attractive than the old diagonal lath construction.

### Gravity Cistern

By H. W. Weisgerber

THE above-ground cistern shown in picture is built of three-inch-thick silo and cistern blocks of concrete strengthened with iron hoops as shown. It rests on a solid concrete foundation. Before winter the owner banks it up for about three feet to prevent the water from freezing. Such protection here in Ohio seems to furnish enough latent heat to prevent hard freezing.

The dimensions are 12 feet high by 6 feet in diameter, inside measurements. The capacity is 74 barrels. The firm that furnished the blocks put it up at a total cost of \$72. The owner bought the roofing material and put it on himself for \$12. He also dug the trench and laid the pipe to the barn and piped the house. As the cistern is above ground, the water flows to the various faucets by gravity. No pumping is required.



This cistern, made of concrete blocks three inches thick, supplies water by gravity to house and barn

The cistern is not quite as close to the main part of the house as it looks to be in the picture, and ten rods would have answered as well, but here it is sheltered by the house and a row of trees from the cold winds.

### Notching Floor Joists

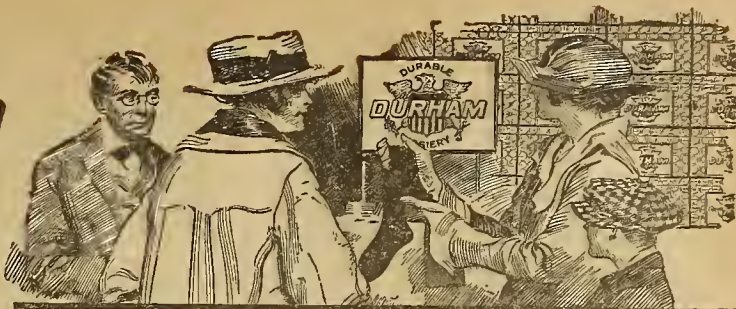
By William F. Miller

IT IS the custom in some localities to notch the floor at the centers for gas pipes or conduits for electric wiring. That should not be done, as it weakens the joists. Frequently the floor sags in the middle and causes the plaster beneath to crack.

The saving in cost of that method over the correct way to run the pipes or conduits is poor economy, considering the damage which might follow.

The proper way to lay pipes on the floor beams is to notch the joists parallel to the walls and not over twelve inches from where they rest on their bearings. Then extend the pipes from those points to the required locations in the spaces between the joists.

The beams used for floors are very rarely stronger than is just necessary. If they are cut in the center they become too weak by exactly the depth of the notches. Cutting them close to the bearings does not destroy the strength. It is in the center where they are affected most.



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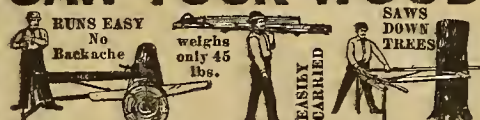
Besides the fleece-lined there are weights and styles for all seasons of the year, for work, play or dress. Durable-DURHAM Hosiery cuts down darning work and expense. You'll like the way the heels, soles and toes are strongly reinforced; the full-length legs; the wide elastic tops that can't be pulled off or torn by garters; the anti-run stitch; the smooth, seamless and even feet and toes; the ankles that fit snugly without wrinkles; and the way the famous Durham dyes are fast—colors will not fade or turn green from wearing or washing. Quality is uniform throughout. Durable-DURHAM Hosiery is made in all weights for all seasons of the year and sells for 15, 19, 25 and 35 cents.

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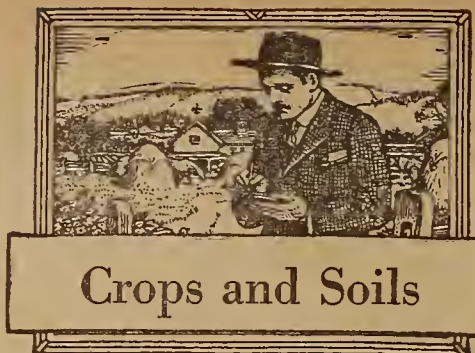
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## Crops and Soils

### Success with Sweet Clover

By J. H. McKenney

MANY persons have expressed a desire to know more of the possibilities of sweet clover. Its growth on a small scale, by way of experiment, has become quite common, but to find a man who may be regarded as a pioneer in handling the crop is not so easy a matter.

Such a one, however, is Wm. Linton of Aurora, Ontario. This legume has become so popular with Mr. Linton that he has stopped growing alfalfa because, as he says, "I have found something better, and that something is sweet clover." On account of its prolonged blooming season—from June until frost in the fall—it occurred to him that the plant might make an ideal bee pasture. Accordingly, a quantity of seed was sown in the cattle pasture. When the bee feed began to come up, the stock left the fresh grass and turned to the sweet clover. The result was that they were so fond of it the plants never got a chance to flower.

The next year a 13-acre field was prepared and sown to sweet clover. As a demand for the seed was springing up, Mr. Linton had no trouble in disposing of his crop of seed for \$2,000. The following year 25 acres were sown and the seed bought by more than 500 customers, representing every province but one in the Dominion.

Mr. Linton finds that the best time for seeding is in the spring, and preferably on fall wheat or rye. If sown with barley or oats as a nurse crop, do so as early as possible. He emphasized the wisdom of sowing not more than a bushel and a half of seed grain to the acre in such cases, as it is useless to expect a full crop of grain and a first-class catch of clover at the same time. Sown in the spring without a nurse crop it will grow throughout the season and can be pastured in the fall, or a crop may be cut in September or October.

Last year Mr. Linton sowed sweet-clover seed in six acres of corn after the last cultivation, which made a good stand. He advocates a compact seed bed as an essential for success with this crop. Sowing on fresh-plowed land generally results in failure. It invariably does well on corn ground if not cultivated too deep in the spring. It can be sown broadcast or with a drill at the rate of from 12 to 15 pounds to the acre if to be used for seed or pasture; if for hay, however, he advises that the amount per acre be increased to 20 pounds.

### The Reason for Failures

The majority of failures with sweet clover are due to not properly understanding its habits. For instance, it does not sprout from the roots like alfalfa, but from the stem, therefore it should not be cut close to the ground. It should be cut the second year about the time it begins to form bloom buds. Being a very succulent plant, it is more difficult to cure than the other clovers. To get the maximum value out of it for feeding, care must be used in properly curing it. Mr. Linton's plan is to let it wilt, then rake into windrows, left thus for a day, after which it is put into cocks to cure. If allowed to become too dry the leaves become very brittle and much of the best is lost in the hauling. Neither should it be allowed to reach the woody stage before cutting, or its feeding value is seriously impaired. Properly cured, he declares that his stock will eat it as readily as alfalfa hay.

The second crop Mr. Linton usually saves for seed. In harvesting it he first utilized the grain binder, but now finds the old self-rake reaper to be more satisfactory for this purpose. The seed crop is cut when about 10 or 12 inches high, so that the cut clover lies on top of the stubble. Should it rain, the crop soon dries out—an important consideration. In hauling he uses a canvas to cover the wagon box, carefully loading so as to save all the seed. The threshing

is done with an ordinary grain separator, after which it is put through the regular huller or clover mill.

Briefly, the plan followed is to cut the nurse crop at the usual time, then pasture the clover until late in October. The next year two cuttings are taken, one for hay and one for seed. The aftermath is then allowed to grow up and is plowed under.

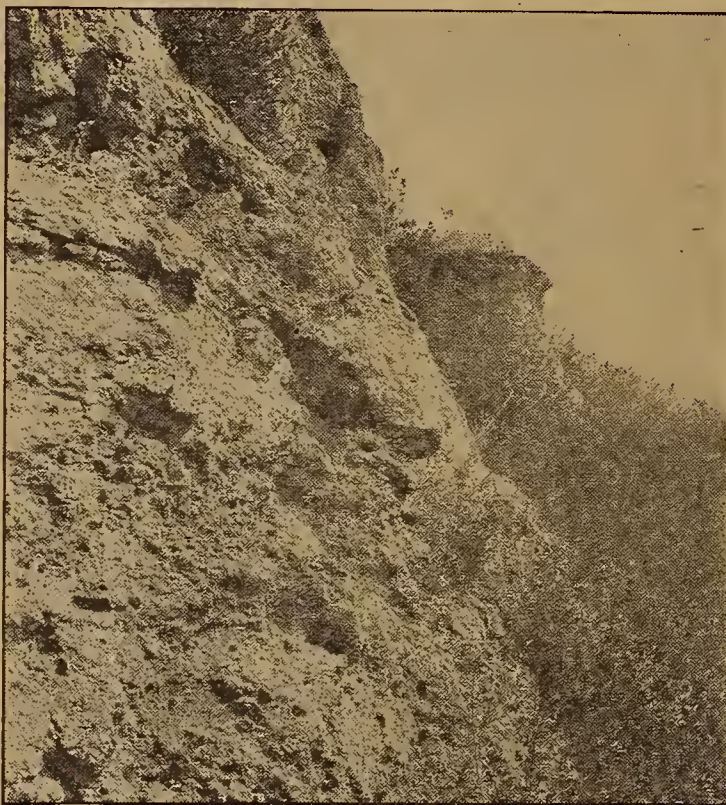
This grower is enthusiastic over sweet clover as a green manure. Two years ago half a field was sown with this clover and oats. The other half was put into oats only. After the crop was harvested the clover was allowed to grow up, and was plowed under in the fall. The same grain was sown the next year over the whole field, but where the legume had been plowed under, the oats were from eight inches to a foot higher.

Sweet clover is not particular as to soils and thrives equally well on heavy clay or blow sand. It is an easy starter, a prolific grower, and an abundant seeder. It defies drought, will thrive on wet lands, and grows in a very wide range of climates. There is one thing that it must have, however, and that is lime. It will pay to test your soil for sourness. Lime corrects acidity.

### Making Sorghum

By Gertrude Shockey

YEARS ago the skilled sorghum-maker's work was considered an art, and quite readily took rank with cabinet-makers, cobblers, etc., in many rural communities. A hillside was generally chosen for the location of the mill. The equipment generally con-



Here sweet clover is growing profusely on a steep cliff alongside of a public road

sisted of a good mill, a furnace, and a plentiful supply of fuel and pans for the boiling of the liquid. The cane was ground by horse power. The changing of the pans and continuous stirring of this boiling liquid, until the proper stage for good molasses was reached, was a tedious, painstaking task, requiring constant attention.

Usually the furnace was several feet away from the mill, which was always from 4 to 6 feet higher than the furnace, which gave a sufficient fall to run the juice through a leaden pipe to the vats.

From 600 to 1,000 gallons could be made in a season, and usually two fifths was taken for toll, and as the sales were good the profit from the work was no small item.

But in our more modern times, when we must count the high cost of living, power, and labor, the old-fashioned horse- or mule-power press, with its equipment, has been pushed almost out of business and replaced by modern equipment and manufacture. Such a plant can produce several thousand gallons of molasses yearly, with an increase to one third for toll and selling from 75 cents to \$1 per gallon compared to 30 to 40 cents of earlier days.

Neither does each have to wait his "turn" as of old, for ordinary cane is supposed to produce 12 gallons of molasses per ton, so all he has to do is weigh his load, deduct the weight of his wagon, and return home with his molasses in a short time—a thing unheard of then. Only a very few of the old sorghum-makers are left to ply their craft. Still less do we hear of the many happy times had on winter evenings when the young people for miles around would gather and boil molasses until it would "spin a thread," then gleefully pull it to a rich, creamy-white, which, when exposed to the pure frosty air without, immediately became brittle candy.

### Potato Flour a National Asset

By Robert R. Rutland

"PLEASE give me 25 pounds of sweet-potato flour." If the grocers were able to fill such a request from the housewives of the North, South, East, and West, what would it mean to the farmers who grow sweet potatoes? It might mean that the rather large percentage of sweet potatoes which are wasted annually would be conserved and turned into flour, that the millions of bushels produced yearly would find a more profitable market by being transferred from the list of semi-perishables to that of easily stored commodities, that the acreage devoted to the crop would be greatly expanded, and that another product would be added to the nation's dietary which would vie with wheat and corn for popularity.

All of this may be within the realm of the possible. Sweet-potato flour has been made recently in the Bureau of Chemistry of the U. S. Department of Agriculture by slicing, drying, and passing sweet potatoes through a grinder. The resulting flour or meal has been mixed with wheat flour and tested in recipes calling for wheat flour alone or wheat and corn, and the results, according to those who sampled them, were satisfactory.

A nutritious and very palatable bread was made by substituting sweet-potato flour for about half of the wheat flour ordinarily used, and in cakes and cookies a still greater proportion of the sweet-potato flour was substituted. The South Carolina Experiment Station also has devoted considerable attention to studying the possibilities of sweet-potato flour and other dried sweet-potato products.

The acreage of sweet potatoes—about 775,000 acres—could be expanded greatly and without much effort. "Sweets" are not an exacting crop in regard to the type of soil in which they thrive, and the price of seed is almost normal compared with that frequently paid for Irish potatoes.

The yield from this year's large acreage should be utilized fully. A large proportion of the crop is frequently lost through inadequate or improper storage facilities. Further waste occurs through the impossibility of marketing the small or undersized tubers, and through overstocked markets. The Food Administration may be able to overcome these troubles.

If suitable drying apparatus were available either to individual farmers or to the community, not only would it be possible to save the small potatoes, but the larger ones could also be turned into a desiccated form in which they could be preserved easily, transported at a smaller cost, and sold on a wider market. The need to conserve wheat is now concentrating attention on the value of potato flour.

### The Fall Seed Bed

FALL plowing for corn, milo, kafir, and other sorghums leaves a rough soil surface which permits a rapid absorption of moisture, and snow is held more readily than on a smooth surface.

Soil with a rough, broken surface is not so likely to blow in the early spring months as one which has become smooth and compact. The action of the freezing and the thawing on the clods during the winter months has a beneficial effect. They break up into small clods or granules, and a desirable physical condition of the soil is thus produced.

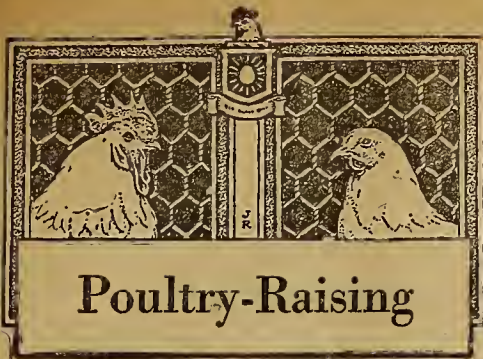
The weathering of the soil also helps to liberate plant foods for the use of crops in spring. Fields that have a heavy growth of weeds or straw or fodder should be plowed in the fall. The organic matter turned under will decay more rapidly during the winter months because of the soil moisture then. This increases the amount of organic matter incorporated in the soil. There is also an increase in the available nitrogen.

For land that is to be planted in corn the next year, deeper plowing is recommended than for small grains.

Fall-plowing is an aid in the economical distribution of farm labor. In States where they have the late, mild falls, after the fall wheat seeding and corn picking are done, the farmer has the glorious Indian summer for fall plowing. His horses are in good condition and he can do much plowing and have this work out of the way in the early weeks of the spring.

This enables earlier seeding in the spring, and facilitates spring work all around. It saves overworking the horses and men to catch up with the rush of the spring seeding.





Hen's Three-Year Board Bill

By F. W. Orr

THESE days, knowing the hen's exact board bill is next in importance to knowing her exact production of eggs in a given length of time. Some testing work carried on by the Ohio Experiment Station with a flock of 24 Leghorn hens for three years has furnished valuable data on the amount of feed consumed by a flock of layers when kept until three years old, and no less important is the number of eggs these hens laid during the three years of their lives.

This flock of Leghorns was fed a fairly well-balanced ration of mixed grains and dry mash containing meat scraps, also green feed, shell, and grit. The hens consumed an average of 174½ pounds of grain and mash during the three years, from November 24, 1912, to October 6, 1915, which during that period cost \$2.27 per hen. The hens laid an average of 351 eggs each, or 117 eggs per hen each year, and yielded a total profit of \$4.18 per hen. The feed cost of the eggs was 7¼ cents a dozen. At the end of three years there were 17 of the hens still alive, the mortality having been 29 per cent.

If we triple the feed cost per hen to approximate present feed prices, and make the average price of eggs 35 cents a dozen, hens of same average quality would return an annual profit above feed cost of better than \$1 each for three laying years. On the same basis, 1,000 hens would return the poultryman a fair living above expense of investment, depreciation, interest, etc.

Chicken Hospital Record

By M. B. Howard

EVIDENCE that skillful doctoring of poultry has made rapid advance of late is shown by the hospital record of 10 hens in a laying contest at Mountain Grove, Missouri. Ten ailing hens that received hospital treatment for colds, canker, roup, etc., were each in the hospital an average of twenty-six days. After recovering and leaving the hospital, these 10 hens laid an average of 119 eggs each during the remainder of the year, or over \$3 worth of eggs per hen at average summer and fall prices. Many consider a hen not worth doctoring, but heavy laying stock is worth medical attention. But the hen that has once been ailing should be so marked that she will never be used in the breeding pen.

Birds that have had a serious attack of disease may show no indications of weakened vitality after recovery. Nevertheless, breeding stock having undergone roup, liver troubles, and similar serious diseases cannot transmit as full vigor to their progeny.

Rats Kill 160 Chicks

By Charles Reader

AFTER a Franklin County (Massachusetts) sheriff and his deputies failed to discover chicken thieves that were decimating the flock of a Bay State poultryman, the owner traced the ma-

raiders to their lair and found the partly eaten bodies of 160 of his prize chicks in and about the den of a family of rats. It is a satisfaction to say that he was able to destroy the rat family that was making trouble for him.

Now that the expense of poultry-feeding has increased to the present exorbitant cost, it is high time that poultrymen and farmers generally should co-operate to put the rat robbers permanently out of business. This will not be accomplished until solid concrete foundations are placed under all farm buildings, and no harbors in the way of old rubbish, rock piles, lumber piles, and the like are allowed to remain. The needed lumber piles should be so constructed that there will be no hiding places under them. The rat feels secure only when his lair can be made under buildings and similarly secure strongholds.

Overhead Poultry Carrier

By J. T. Raymond

AN OVERHEAD carrier is a handy, profitable apparatus in long poultry houses, and its use is increasing. I recently visited one large Eastern poultry farm which has in use a carrier that is giving good satisfaction. At one end of the house is a store-room for grain and other supplies, and at the other end a 20-ton capacity concrete manure pit. The carrier is suspended from a trolley which runs through the center of each pen. This carrier is not only used in grain-feeding and when filling the mash hoppers, but also in taking out and introducing litter.

Important Contest Figures

By B. F. W. Thorpe

THE laying contest being conducted by the State College, Pullman, Washington, is bringing to light some highly important and interesting points. The records of this contest not only show the number of eggs laid by each hen and pen of layers during each month of the contest year, but also the quantity of feed eaten, its cost, value of the litter used, cost per dozen of eggs laid by each pen, also the actual profit made by each pen and the average comparative profit made per hen of the six most popular breeds.

These comparisons, here given, show that the right kind of hens were paying a good profit even in midsummer:

Breed	Leghorns	Reds	Wyandottes	Rocks	Orpingtons	Minorcas
No. of hens in contest	406	115	113	97	42	20
Average feed eaten per hen in June (lb.)	8.1	8.7	8.5	9.2	8.8	10.7
Average cost of feed eaten per hen in June (cents)	19.3	20.7	20.1	21.3	21.0	23.0
Average number eggs laid per hen in June	13.4	11.0	9.4	13.4	9.0	15.4
Average cost per doz. eggs per hen in June (cents)	17.6	22.9	26.4	19.9	29.1	17.9
Average profit per hen in June (cents)	20.4	12.0	7.5	18.0	5.1	23.2

Farm flocks of 200 hens each of these different breeds, laying as well as the hens in this contest, would return profit for June of the following amounts, above feed cost: Leghorns, \$40.78; Reds, \$24; Wyandottes, \$14.92; Rocks, \$35.94; Orpingtons, \$10.26; Minorcas, \$46.50.

The small number of Minorcas in this contest are evidently specially well bred for heavy laying.



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By ARTHUR HENRY GOODEN

### PART II

**THE WAY IT BEGAN:** Because there was no love for her in the heart of the aunt and uncle who had grudgingly taken charge of her when her parents died, Lizzie Dare ran away. She had just won two dollars as a prize in school, and saying farewell to her only friend, Clay Thorpe, who wanted to marry her when they grew up, she boarded a train and in the Pullman sat down with Paul Morrow, a great-hearted drummer. He was charmed by her, and brought her up, and at this stage of the story she has come back and announces that she wants to go into business and make her own way.

**T**HE affairs of the Trufit Shoe Company were conducted in a large, dingy brick building in San Pedro Street. That portion of the public that chanced the cobblestones of the congested wholesale district had knowledge thrust upon it by a gigantic legend on the walls of the aforesaid brick building proclaiming that TRUFIT SHOES FIT! The third word stood out in fifteen-foot letters. The company had always sworn that Trufit shoes fitted, but it had remained for Julietta Dare to suggest that one additional word painted on the wall of the building would herald the fact to the world at large.

To the utter bewilderment and the untold pride of Paul Morrow it was just such ideas as this which had placed Julietta as assistant in charge of the sales department, eighteen months after that fateful dinner at the Alexandria. In fact, she dated her whole scheme of things from two evenings—that dinner and a certain dinner years previously; both included Paul Morrow across the table.

They lived quietly, happily. Julietta's best friend was Mrs. Drake, and many a troublous hour was calmed in the haven of the old academy in Pasadena, and many an evening Mrs. Drake spent in the city with them. But still Julietta clung to her ambition.

"We're not selling enough shoes," she declared one morning to Morrow.

"Eh? 'Pon my soul! We're making our competitors know where we are."

She settled back comfortably in her chair and tapped a pencil against her white teeth.

"Our factories can double the present output—if we can sell it."

"Sure," agreed Morrow resignedly. "What's the idea now?"

Julietta leaned forward.

"Have you read the papers?" she queried breathlessly.

"Of course I have—all of 'em."

"Then you must have seen that Japan has sent some men over here to place contracts for shoes—she is supplying the Russian armies and can't fill all the orders, so contracts are being subleased. I want one of those contracts, for a million pairs of Trufits!"

Morrow exploded in a roar of laughter.

"My dear girl, there's absolutely no use in wasting time with those Japs. Those fellows will turn over their contracts to the shoe combine and they'll get a fat graft. I can't afford to give 'em a load of greenbacks for a one-million-pair contract! We can't buck the trust when it comes to graft, Julietta." His fist came down on the desk with a loud smack.

"Certainly not," agreed Julietta. Paul leaned back with a gesture of finality.

"Well, then, that's all there is to it."

"No, it isn't."

"Eh?" He gazed at her, startled.

"What do you mean?"

"I'm going to Japan and go over the heads of these fellows. If I landed that contract there'd be a half-million profit in it, or more. I'm going to see the Japanese minister of war, or whoever takes care of these contracts over there."

"You are not going to Japan on any such errand!" said Paul shortly.

"Don't you approve of getting that contract?"

"No. You can't land it. Nobody can. And I don't want you to go."

"But, Uncle Paul—"

"You see, my dear girl," went on Morrow, "this idea of yours is preposterous. You're an uncommonly clever girl, but, after all, a girl. Impossible!"

She met his defiant look with unwavering eyes.

"And, after all," she said slowly, "you are not really my guardian. You have no legal authority over my actions. You cannot dictate whether I shall go or stay. I'm determined on going, so we may as well be amicable over it."

Morrow stared at her for a long moment. The lines about his mouth deepened, and as she met his eyes Julietta's hands clenched until the nails bit into her palms.

"Yes," said Morrow thickly. "Yes. I'm not your guardian—nor your uncle—"

"Oh, forgive me, Uncle Paul!" She leaned forward and caught his hand; the pain in his eyes was too much for

her. "I was cruel. I tried to be cruel and—and it was horrid of me. Please forgive me! I couldn't bear the thought of giving up my idea—"

He patted her hand gently, and the smile crept back to his face.

"You can't go," he returned inflexibly but kindly, "with my sanction as the head of this concern, Julietta. That's all."

"Oh, Uncle Paul! You'll not let my big idea drop?"

"We'll send Benson."

"Benson! Have him steal my thunder?" she flashed out rebelliously. "No, I won't have him make a mess of the thing. I want the commission—the idea is mine, and I've a right to reap the reward. Be fair to me, Uncle Paul—haven't I the right?"

"'Pon my soul!" muttered the harried Morrow. "If you put it that way, you have. I don't want to be unjust, Julietta dear, but you simply cannot go to Japan. See here, if Benson won't do, isn't there some other way out of it that would satisfy you?"

A radiant smile touched her lips at this sign of weakening.

"Certainly there is," she asserted lightly. "I have it all planned out. Mrs. Drake!"

"Mrs. Drake!" Again Morrow stared blankly at her.

"Yes. She'll go with me. You know she has been planning to leave the school soon, and we can go to Japan together. Then when we get there she can look after me, and I'll look after that contract—and we'll both have our way."

"I see," murmured Morrow absently. "I wonder if the time will ever come when I shall have my way with you, Julietta?"

"You're having it now," she ran on with eager words. "And just think what an advertisement to say that the Russian army marched in Trufit shoes!" Her silver laugh pealed through the shabby office.

"I'll call up Mrs. Drake," said Morrow, and reached for his telephone. "If she says that she'll go I'll find out about the steamer right away."

"Oh, good!" Julietta sprang up and impulsively flung her arms about his neck; her lips pressed against his grizzled cheek. "You're such a dear uncle! And I don't deserve it."

"'Pon my soul!" stammered Morrow. Julietta fled, throwing him a radiant smile as she passed into her own office. "'Pon my soul!" repeated the president of the Trufit Shoe Company. His hand trembled perceptibly as he lifted the telephone receiver.

**A**CURIOS smile, half tender and half triumphant, curved Julietta's lips as she stood thoughtfully at her desk. It pained her to go against Paul Morrow's wishes; and yet that blissful exultancy of setting her will against the world, of doing the impossible. She recalled her childish boast to Clay Thorpe, those dim and misty years ago—years that seemed now but a vague, shadowy unreality. Again she smiled, softly, reminiscently, as the scene flashed upon memory's

screen, and she saw herself, slim, bare legs, sunbonnet swinging in her hand, telling the awed, wide-eyed, freckled-faced boy, "Some day, when I'm big, I'm going to do big things—the way men do big things." A far-away expression crept into Julietta's eyes. She wistfully wondered about Clay Thorpe, her childhood's playmate, her best friend—and gallant knight. She wondered what he looked like now. And then, womanlike, she wondered if he still remembered her, if he remembered his earnest, half-defiant answer to her proud little boast: "When you're big I'll be big too, and then I'll marry you, and we'll have the finest ranch in the valley." Julietta half sighed as she sat down at her businesslike desk. Somehow she had never forgotten Clay Thorpe's plans for his future—and for her future—when they were both "big."

**T**HE door swung open to admit Mr. Parkis, an out-of-town customer; a young man, rather too stout, whose breezy air carried all before it.

He dropped into a chair opposite Julietta, crossed his legs and took out a cigarette.

"I never smoke in my office, Mr. Parkis," said the girl, watching him gravely.

"Oh, beg pardon, Miss Dare—just a habit, you understand. Always light up when I sit down. Always."

"Do you?" Her unsmiling eyes seemed to perplex him.

"Yes. Curious, isn't it?" He rattled on, and quickly regained his confidence. "Say, a fellow never knows just how to take you, Miss Dare. I've been buying here for the past year, and—well, of course we've seen a great deal of each other, haven't we?"

"Yes," the girl spoke almost regretfully. Parkis hitched his chair closer.

"Not so much as I'd like, just the same. No dinner parties, no shows—nothing! If a guy wants to see you it's right here. Well, here I am. You know me, Al; you know how I stand, you know my rating, you know pretty much all about me, and since you'll only see me here I'll call the bluff. I want you to do something for me, if you will."

"Yes?" Julietta's smile belied her thoughts. "Something in the credit department?"

Mr. Parkis barely repressed an exclamation.

"No. Something personal. I'm a business man, and I'll be brief and to the point. I want you to marry me, Miss Dare—"

"I'm a business woman, so while I thank you for the honor, I must decline."

"Parkis stared blankly."

"I said, marry me," he repeated. The words and air brought a steely spark into Julietta's blue eyes.

"I heard you," she returned coldly. "I said no."

Parkis hesitated, rose, and stared down at her. A slow, dull red flooded his face.

"Huh! Been leading me on for my trade, eh?"

"Good morning, Mr. Parkis." Julietta turned to her letters and rang for the stenographer. Parkis moved toward the door.

"Because you're old Morrow's pet, huh!" he flung back over his shoulder. "Got him pretty strong on you—ain't it true? Soft old gink, yah!"

The door slammed. The stenographer entered, and was amazed to see Miss Dare seizing an ink bottle as if about to fling it. Julietta set the bottle down, her cheeks flushed.

"Please have a sample case made up for me immediately. It must be ready by to-morrow, because I'm taking the Satsu Maru for Japan next Saturday."

The door closed behind the stenographer. Julietta turned again to her letters, staring at them with unseeing eyes. A disturbing incident was Mr. Parkis; a cruel, torturing incident—but only an incident, after all. Another woman might allow his blunt words to dwell in mind, might argue from them wild theories, might unconsciously allow the seed to bear unhappy fruit, but not so Julietta Dare. Resolutely she would sweep from her mind all thoughts of that petty man—forget his words absolutely. Yet—yet—

"The nasty thing," she murmured, "hinting at such a thing about Paul Morrow." Her cheeks burned, she bit her lip. And suddenly again flashed upon memory's screen Clay Thorpe and his half-shy, half-defiant declaration of long ago: "—and then I'll marry you—"

Julietta sat for a moment tense, resentful wistful, then, with an impatient, half-angry shrug, she turned her attention to the day's work.

**JULIETTA** had been sure that Paul Morrow would meet them in San Francisco upon their disembarkation. Both she and Mrs. Drake had expected to spend a few days shopping in the Golden Gate city, but when no Morrow showed up and no word from him took his place, they boarded the night train for Los Angeles. [CONTINUED ON PAGE 19]



"You've not ruined me, dear Julietta"





Photos on this page by Joel Feder

# Comforts for Soldiers

*Knit for the Men Who Fight for You*  
Follow these accurate directions authorized by the  
*American Red Cross*

**USE** khaki or gray yarn in making these articles. Owing to the difficulty of securing khaki yarn in large quantities, the Red Cross Supply Service will carry the gray yarn (Oxford mix, 4 ply, 10's construction). Wool and knitting needles may be procured either from Red Cross chapters or from stores, provided the yarn is of the same grade and the needles of the same size as those mentioned. The needles are standardized Red Cross needles, which can be purchased from the chapters in the following sizes: Amber knitting needles, Nos. 1, 2, and 3, and steel knitting needles, No. 12.

Completed articles should be turned into the Red Cross through the nearest chapter or mailed direct to the Red Cross Supply Service for your branch. The United States is divided into thirteen sections, with a central supply headquarters for each. If you wish to send work to or communicate with your division headquarters, write the Household Editor of FARM AND FIRESIDE for the address.

All other questions will be also gladly answered, particularly about the formation of auxiliaries for Red Cross work.

**DIRECTIONS FOR SLEEVELESS SWEATER:** 3 hanks of yarn ( $\frac{3}{8}$  lb), 1 pair Red Cross needles No. 3. Cast on 80 stitches. Knit 2, purl 2 stitches for 4 inches. Knit plain until sweater measures 25 inches. Knit 28 stitches, bind off 24 stitches for neck, loose. Knit 28 stitches. Knit 7 ridges on each shoulder, cast on 24 stitches. Knit plain for 21 inches. Purl 2, knit 2 stitches for 4 inches. Sew up sides, leaving 9 inches for armholes. 2 rows single crochet around neck and 1 row single crochet around the armholes.

**MUFFLER:** 2½ hanks of yarn, 1 pair Red Cross needles No. 3. Cast on 50 stitches or 11 inches. Plain knitting for 72 inches.

**KNITTED HELMET:** 1½ hanks of yarn ( $\frac{3}{8}$  lb), 1 pair Red Cross needles No. 2. The helmet is made in 2 parts, which afterwards are sewed together.

**FRONT OF HELMET:** Cast on 48 stitches (11 inches), knit plain for 25 ribs (6 inches), and knit 2, purl 2, for 35 rows. On the next row the opening for the face is made as follows: Knit 2, purl 2, knit 2, purl 2, knit 2, knit and bind off loosely the next 28 stitches and purl 1, knit 2, purl 2, knit 2, purl 2. Run the stitches before the opening on a spare needle and on the stitches at other side of opening knit 2, purl 2, for 12 rows. The last row will end at the opening, and at that point cast on 28 stitches to offset those bound off. Begin at the face opening of stitches on spare needle and knit 2, purl 2, for 12 rows. At the end of the 12th row continue all across to the end of other needle, when there should be 48 stitches on needle as at first. Knit 2, purl 2, for 24 rows.

**TOP OF HELMET:** Knit 2 narrow (knitting 2 stitches together), knit 14, narrow, knit 14, narrow, knit 12. Purl the entire next row. On the 3d row knit 2, narrow, knit 13, narrow, knit 11. Purl 4th row. On the 5th row knit 2, narrow, knit 12, narrow, knit 12, narrow, knit 10. Purl 6th row. Continue to narrow in the 3 places every plain-knitted row with 1 stitch less between narrowings until 9 stitches are left.

**BACK OF HELMET:** Work in same manner as for front, but omit the face opening. Sew the stitches of upper edges together with joining stitch as shown in detail cut. Sew up the side seams, leaving the plain knitting at shoulders open.

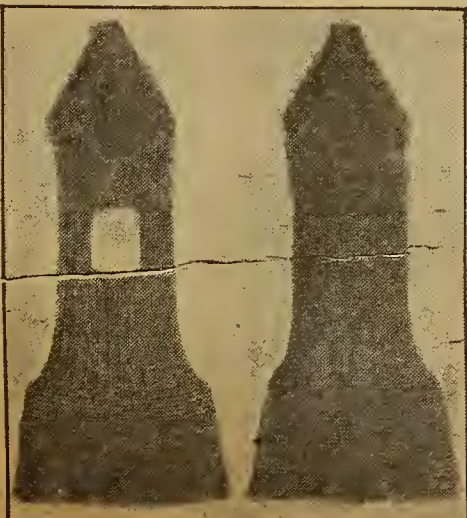
**THUMBLESS MITTENS OR WRISTLETS No. 1:** ½ hank of yarn ( $\frac{1}{4}$  lb), 1 pair Red Cross needles No. 2. Cast on 48 stitches, knit 2 and purl 2 for 14 inches, and sew up, leaving 2 inches open space for thumb 2½ inches from each end.

**WRISTLETS No. 2** (same as No. 1, but made in 1 piece): ½ hank of yarn, 4 Red Cross needles No. 1 (or steel needles No. 12). Cast on 52 stitches on 3 needles: 16, 16, 20. Knit 2, purl 2, for 8 inches. To make opening for thumb, knit 2, purl 2, to end of 3d needle, turn; knit and purl back to end of 1st needle, always slipping first stitch, turn. Continue knitting back and forth for 2 inches. From this point continue as at first

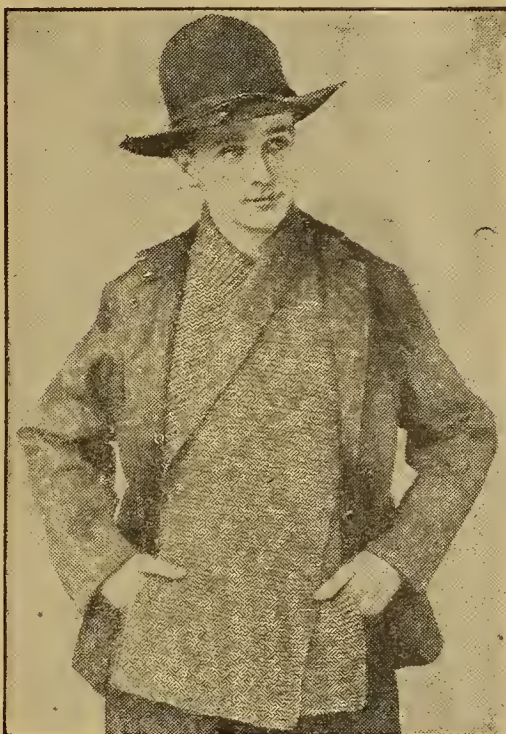


for 4 inches for the hand. Bind off loosely and button-hole thumb opening.

**MEDIUM-SIZED MAN'S SOCK** (By far the greatest need is for socks of this size): 4 Red Cross needles No. 1, ½ lb (2 hanks) of yarn. Set up 60 stitches, 20 on each of three needles. Knit 2 plain and 2 purl for 35 rows (4½ inches). 36th Row—Knit 4 plain stitches, knit 2 together, repeat this until the round is completed. There are now 50 stitches on the needles. Knit 50 rows plain until leg measures 11 inches (6½ inches of plain knitting). Take half the number of stitches (25) on first needle for the heel (leaving 12 and 13 stitches on the 2d and 3d needles for the instep) and on the 25 stitches knit 1 row, purl 1 row, alternately, for 26 times (or



These pieces stitched together make the helmet



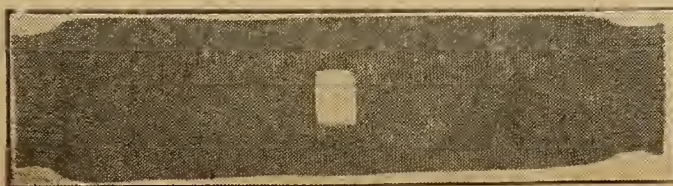
rows plain (d). Repeat a, b, c, and d 3 times, then narrow every other row until you have 5 stitches on your 1st needle, 9 stitches on your 2d needle, and 4 stitches on your 3d needle. Knit the 5 stitches on your 1st needle on to your 3d. Your work is now all on 2 needles opposite each other. Break off yarn, leaving 12-inch end.

Thread into worsted needle and proceed to weave the front and back together as follows: Pass worsted needle through \*1st stitch of front knitting needle as if knitting, and slip-stitch off. Pass through 2d stitch as if purling, leave stitch on. Pull thread through 1st stitch of back needle as if purling, slip-stitch off. Pull thread through 2d stitch of back needle as if knitting, leave stitch on. Repeat from \* until all the stitches are off the needles.

Socks when finished should measure: Foot from tip of heel to tip of toe, 11 inches. Leg from tip of heel to top of leg, 14 inches.

**WASH CLOTHS:** Amateurs will do well to begin with the wash cloth, since the work is simple and the materials inexpensive. Use white knitting cotton (medium weight), 1 pair Red Cross needles No. 1, or steel needles No. 12. Cast on 70 stitches, knit back and forth plain until cloth is about 10 inches square, and bind off. Sew a loop of tape to one corner.

**GENERAL DIRECTIONS:** Stitches should not be cast on too lightly. Knitting should be done evenly and firmly, and all holes should be avoided. Joining should be done by splicing or by leaving two or three inches at each end of the yarn to be darned in carefully. All knots, ridges, or lumps should be most carefully avoided, especially in socks, as they are apt to blister the feet.



This shows the sweater before it is stitched



3 inches), always slipping the first stitch. Begin to turn heel on the wrong side, slip 1, purl 13, purl 2 together, purl 1. Turn work over, slip 1, knit 4, slip 1, knit 1, and pass it over slipped stitch, knit 1.

Turn, slip 1, purl 5, purl 2 together, purl 1. Turn, slip 1, knit 6, slip 1, knit 1, and pass it over slipped stitch, knit 1. Continue working toward the sides of the heel in this manner, leaving 1 more stitch between decreases on every row until all the stitches are worked in. There should then be 15 stitches on the needle. Pick up 13 stitches on side of heel. Now knit the 25 stitches on 2d and 3d needle on to one needle, which becomes your 2d needle; with your 3d needle pick up the 13 stitches on the other side of heel and knit 7 stitches off your 1st needle, so that you will now have 21 stitches on the 1st needle, 25 stitches on the 2d needle, and 20 stitches on 3d needle.

1st needle (a) knit to within 3 stitches of end, knit 2 together, knit 1. 2d needle (b) knit plain. 3d needle (c) knit 1, slip 1, knit 1, pass slipped stitch over, knit plain to end of needle. Knit around plain (d). Repeat a, b, c, and d until you have 13 stitches on 1st needle, 25 stitches on 2d, 12 stitches on 3d. Knit plain for 4½ inches.

1st needle (a) knit 10 stitches, knit 2 together, knit 1. 2d needle (b) knit 1, slip 1, knit 1, pass slipped stitch over, knit 19 stitches, knit 2 together, knit 1. 3d needle (c) knit 1, slip 1, knit 1, pass slipped stitch over, knit 9 stitches, knit 2



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**THIS** is the time to save money, and you can do it, too, if you will buy the clothes pictured on this page. Every one is a bargain for the FARM AND FIRESIDE readers at a special price. Read the page over carefully before selecting your fall and winter outfit. You will find it quite worth while.



No. 28—Misses' Serge Dress, \$10



No. 26—Nightgown, \$1.

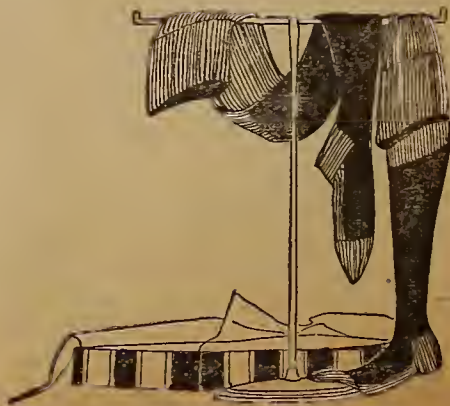


No. 27—Silk Waist, \$3.85

No. 28. The young girl and the small woman will enjoy wearing this stylish dress of all wool serge. It comes in blue, brown, green, or black and is trimmed with braid. Sizes, 14 to 20 years. Price, \$10.

No. 29. Everyone likes silk stockings, and why not have these when they are so reasonable? They are thread silk with the tops and soles cotton. Sizes, 8½ to 10. Black, white, or colors. Price, 65 cents.

No. 30. Then there is always the dress-up time, and for then there is this simple but very stylish dress of charmeuse. Note the roll collar of white satin, and the plaitings on the skirt which simulate pockets. The dress comes in navy blue, black, or taupe. Sizes, 34 to 42 bust; also 33 and 35 for young women—equivalent to 16 and 18 years.



No. 29—Silk Stockings, 65c



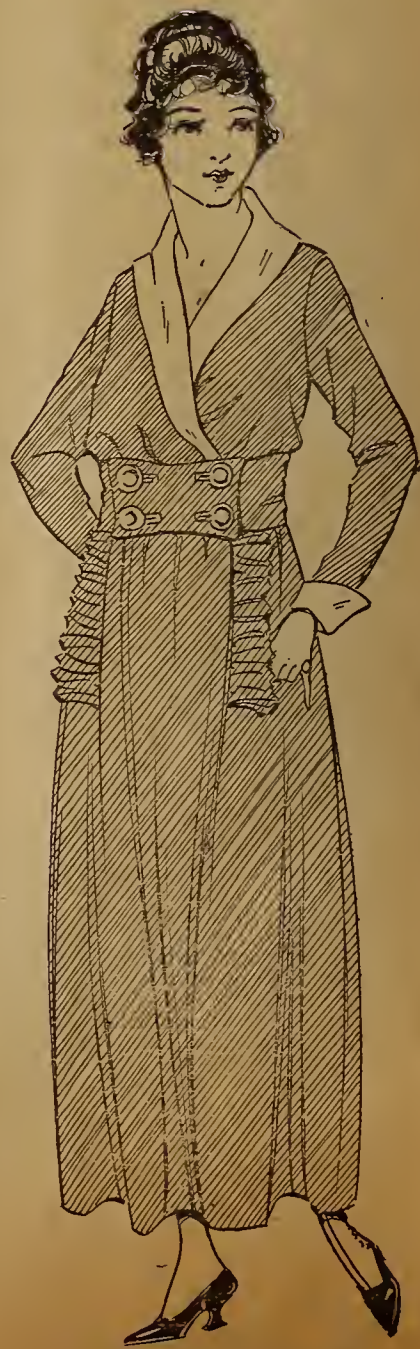
No. 25—Cap and Scarf, \$1.35

No. 24. Neck chains are in great style. This one is a copy of a very expensive one. It is of white metal in antique green gold finish set with imitation amethysts and emeralds. Price, 35 cents.

No. 25. When the cold wind is blowing this set will feel most comfortable. It is made of brushed wool in rose, green, purple, Copenhagen, or navy—white stripes on scarf. Price, \$1.50.

No. 26. A warm flannel nightgown is a necessity in cold weather, and why not have that necessity dainty and attractive? This nightgown is made of pink or blue striped flannelette and the neck finish is in what they call pajama style, just two good-looking buttons and braid ornaments. Sizes, 14, 15, and 16. Price, \$1.

No. 27. There is always need for at least one stylish silk waist in the winter outfit. This one would go with almost any skirt, black, blue, green, or gray, for the waist comes in a smart blue and green Roman stripe with a touch of red and white. The front and collar are trimmed with blue buttons. 34 to 44 bust. Price, \$3.85.



No. 30—Silk Dress, \$15



## Runaway Julietta

(CONTINUED FROM PAGE 16)

A great urge drove Julietta—an urge to be at her desk in the old brick building in San Pedro Street, to hear Morrow's jovial "Pon my soul!" again, to get back to the business which she loved.

That had been a gorgeous moment when she had stepped into the cable office at Tokio to send Paul the news of triumph; second to it was her anticipation of the moment when she saw him again and heard his congratulations. She had bound the Trufit Shoe Company to deliver one million pairs of shoes, and it was breath-taking to contemplate. Julietta felt that she had "made good" beyond all dispute.

But why had there been no word from Paul Morrow?

A freight wreck detained their train at Mojave for an interminable four hours. Toward the end the impatient Julietta sent Morrow a telegram, but they had started south again before any reply came.

It was nearly noon before a taxicab deposited Julietta in front of the big brick building in San Pedro Street. She paid the chauffeur, throwing in a smile as additional gratuity, tripped briskly up the steps, and entered the general office. She found therein a strange air of lassitude, and it brought her to an astonished standstill.

Something amiss! Everything in sight spelled it. No typewriters clicked. The clerks were gathered in a little knot, or lazying idly in their chairs. One or two looked at Julietta and said something below their breath; the girl went cold.

AT SIGHT of her, Mr. Dolby, the office manager, came forward. He was a stoop-shouldered man with a wisp of gray hair falling over his green eye shade.

"Good morning, Miss Dare. You've surprised us." His voice was colorless. "What's wrong?" Julietta demanded quickly.

"Mr. Morrow will doubtless explain, Miss Dare."

"Then there is something wrong!"

Julietta swept past him and entered the elevator.

She found Paul Morrow seated in his creaky chair, one big hand lying listlessly on the desk, his eyes fastened on the window unseeing. At sight of Julietta in the doorway he sprang to his feet.

"Pon my soul! You!"

"Yes, me!" cried the girl joyfully, her hands in his. "Why didn't you meet us in 'Frisco? Did you get my wire from Mojave?"

"That is—" He colored, and she made haste to break in.

"Oh, I know something has gone wrong! What is it, Uncle Paul? Why didn't you have time to think about me?"

"I did think a lot about you," he said with a sudden laugh.

Julietta sat down and began to remove her gloves. She was conscious of a nasty, uncomfortable sensation.

"What is it?" she demanded calmly. "Not that contract? It's not canceled?"

His eyes twinkled.

"I offered them five thousand dollars cash to cancel it. They refused."

Julietta stared at him in wondering incredulity.

"What do you mean, Uncle Paul? You're not joking?"

"Girl, you're a human wonder, 'pon my soul you are! How ever did you get that contract?"

"Never mind that," she retorted impatiently. "Tell me what's happened, won't you?"

He laughed in the old hearty way, and Julietta began to feel that it was nothing so terrible after all.

"Those Japs are the trickiest little beggars on earth," he made answer. "That contract was signed the evening before you sailed?"

"Yes." Julietta took a paper from her bag. "Here it is."

Morrow disregarded it.

"Well, they slipped the word to the shoe combine that we were to get the contract—understand? Before it was signed, before I knew about it. Of course, the minute I got your cable I went after the leather for that million pair of shoes. Well, there was no leather."

"Eh?" She frowned, her brain shrinking from the realization. "You mean—"

"The trust was tipped off in advance. The contract was signed. The trust controls the tanneries—and we cannot get enough leather to fill that contract."

Julietta's cheeks whitened.

"But, Uncle Paul! I'll cable my friend the baron, and he'll have the contract canceled. You know, I wrote you from Tokio about him—"

"Poor little girl!" Morrow leaned forward suddenly and patted her hand. "You may know our kind, Julietta, but you don't know Japs. I thought of that

when the trap pinched, and I cabled the baron at once. Here's his reply."

He took a cablegram from the desk. Julietta held it to the light, saw that it was signed by the baron, and addressed to Paul. Its message was brutally curt:

Unable cancel contract or extend time. Must be filled.

"You see," went on Morrow, a world of sympathy in his voice as he saw Julietta's lips tighten, "it was a slick game from the very start. They never wanted the shoes, but this baron fellow was in cahoots with our trust. If I had received the contract to sign I would naturally have arranged for the leather first. I should have done this anyway, but I did not think you'd land the business."

"Then what—what does it mean, Uncle Paul?"

Morrow spread out his hands resignedly.

"It means, my dear, that we are sued for huge damages, or else we sell out to the trust, at their own price. We'll sell out of course, and at least escape with honor."

That meant ruin for Paul Morrow. Julietta's face worked; the final word stung her with remembrance.

"It's all my own fault," she said lifelessly, staring before her with tear-wet eyes.

Her restraint gave way. With her arms about Morrow's shoulders she wept as she had not done in years, while he clumsily attempted to comfort her and quell her tears.

"Oh!" she cried out sharply, bitterly. "Swear at me—don't be kind, don't! Say something! Swear! Tell me what an ungrateful, silly little fool I am—I've ruined you—"

Morrow placed his hands on her slim shoulders and looked into her eyes.

"You've not ruined me, dear Julietta," he said, his voice deep and soft. "We'll hang together, my dear, and you can't ruin me so long as your eyes hold the old love for your Uncle Paul. And now tell me—do you want to go back to the San Joaquin and see your real folks, and Clay Thorpe?"

"Never!" cried Julietta vibrantly. "I'll stay with you, Uncle Paul, and some day I'll make up to you for this—this awful thing—"

Morrow laughed, and damned the leather trust with a more cheerful heart.

ALL day had the rain dripped from a sodden sky, the warm life-giving rain of California.

Julietta sat by the blurred window, staring into the newly fallen night, depressed beyond words by the eternal grayness beyond the window, the monotonous drip-drip from the eaves, the soft patter of the rain on the roof. A rainy Saturday in the country was a tiresome affair. On Sunday one could break the monotony by going to church, at least.

Julietta yawned, glanced at a little clock on the dressing table, and yawned again. She must do something—and what was there to do? Ah, a letter to Uncle Paul, of course! She quickly left her chair, lighted the oil lamp, and sat down to a diminutive writing desk.

In the three months which had passed since that fateful morning in Paul Morrow's office much water had gone over the dam. The Trufit company was defunct, and Julietta's days and nights of remorse had finally ended in new work. Her spirit groveled in the ashes of defeat; humility cried for self-abasement: she could not put on sackcloth, but she could, and did, don cotton stockings—for the first time since that wonderful night when Paul Morrow had brought the blue silk stockings from the pawnshop to the cab. She had said then that she would always wear silk stockings—a childish boast which had been made good until now, when they had become emblems of the pride which was no more.

(CONTINUED IN NEXT ISSUE)

## Answers to Puzzles

Puzzles Printed Last Issue

## A Ladder Puzzle

The fire chief stated that the ladder had less than 100 rungs, and since we could see 25 rungs in the picture, it became necessary to find a ladder with less than 100 rungs and more than 25, which would agree with all the facts in the picture and with the chief's statement.

It is comparatively simple to figure out that the correct answer to the problem may be arrived at by finding a number which, divided by five, leaves no remainder, divided by four leaves a remainder of two, and when divided by three leaves a remainder of one. The only number between 25 and 100 that will so work out is 70, and the ladder climbed by Tom, Dick, and Harry had 70 rungs.



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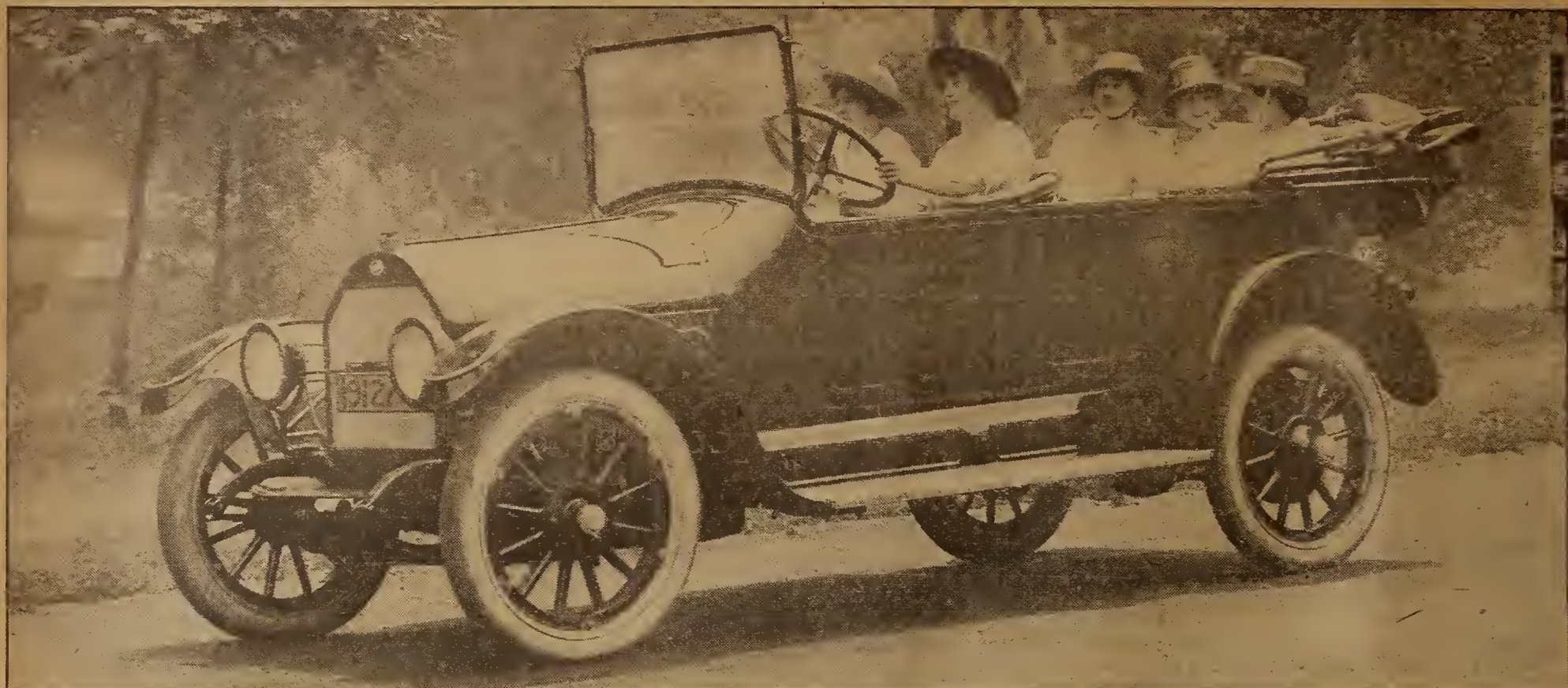
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Dept. 6, Springfield, Ohio

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We have prepared a big two-color circular containing illustrations of all four of the fine touring cars we're going to give away, pictures of persons who have already secured automobiles on our liberal offer, and describing the entire plan in detail. We want to send it to you **without any obligation** whatever on your part. Although we have given away thousands of dollars' worth of grand prizes in the past, this is the biggest, most liberal **Grand Prize Distribution** yet announced. We want you to know all about it—to judge for yourself that it's **YOUR** one big opportunity—and to actually become the owner of one of these automobiles. Surely you can't use a 2-cent stamp any more profitably than to mail the coupon for complete information. Do it to-day—**RIGHT NOW.**

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Dept. 6

Springfield, Ohio

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Words fail me when I attempt to thank you for the fine Touring Car that I have won. I will surely always speak a good word for **FARM AND FIRESIDE** and for the help you gave me in winning this dandy automobile. Hoping I will some day be able to repay you for your kindness, I am, Very truly yours,  
MRS. R. B. KILMER, W. Va.

#### GENTLEMEN:

When you told me I was the winner of the Overland, I could hardly make myself believe it. To say that I am just as happy as I can be would be putting it mildly. Please accept my heartiest thanks for the splendid way you treated me and for the handsome prize I so easily won. Yours truly,  
PAUL HALBERT, W. Va.

#### GENTLEMEN:

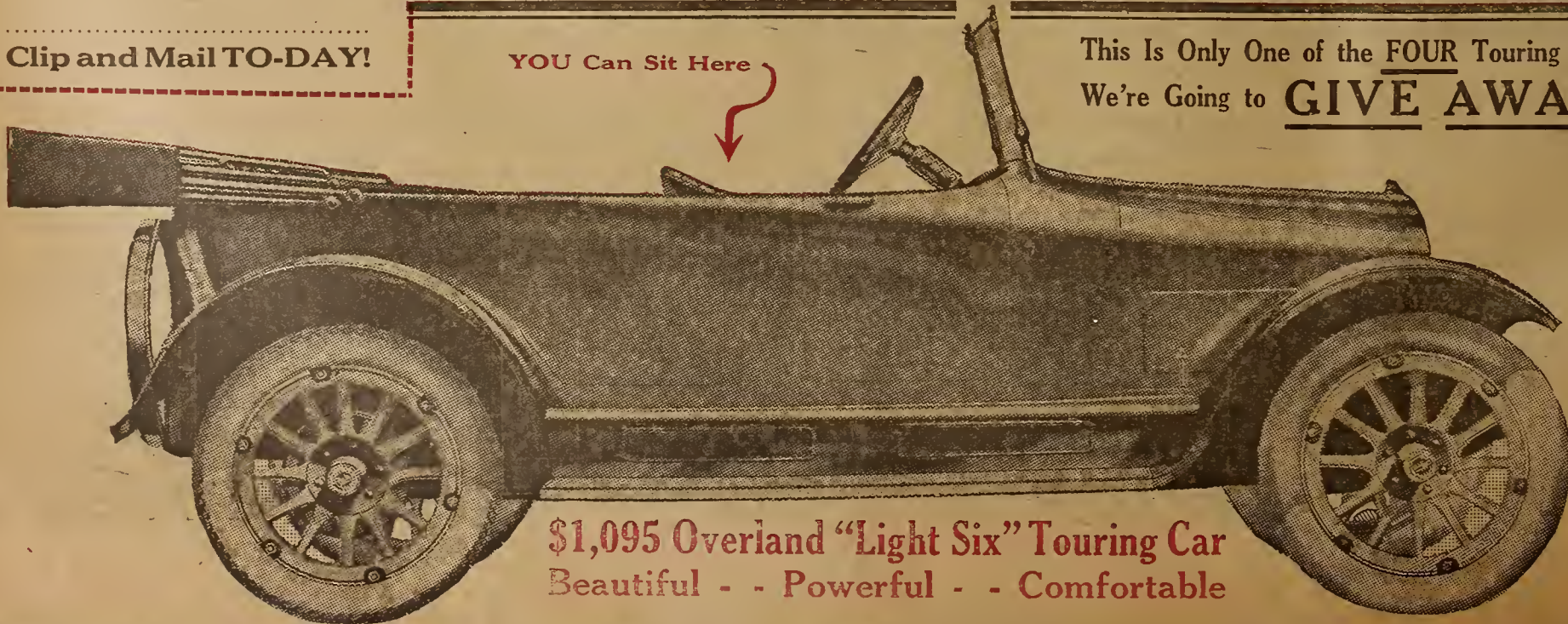
I am certainly mighty proud to know that I won the Touring Car. When I first wrote you I had little idea of being so fortunate. But everyone seemed so anxious to help and boost me along that I guess I couldn't keep from winning. Thank you again and again for the excellent reward. Sincerely,  
MRS. GEO. BISHOP, Ohio.

#### GENTLEMEN:

Was glad indeed to learn that I captured second prize—a Ford Touring Car. Your Grand Prize Distribution plan is unsurpassed. You give everyone a fair, square deal, and I am fully satisfied with all my dealings with you. Thanking you for the Ford Touring Car and the fine treatment I received, I remain,  
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# OAKLAND SENSIBLE SIX



# FARM and FIRESIDE

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No. 3

## Cutting the Teuton Roll Call Germany Drafts Mere Boys to Fill Gaps and Stave Off Defeat

BY FRANK H. SIMONDS

THERE is scarcely a time when two or three are gathered together to discuss the war that someone does not say: "I don't see how they can go on fighting. I should think the man power in all of the warring countries except ours would have been exhausted long ago." To answer comments like this Mr. Frank H. Simonds has prepared this second great article on the war for the series begun a month ago in FARM AND FIRESIDE with "Sea Power and the Submarine." There are two ways in which victory might be awarded. The submarine might be successful and the Germans win a tardy triumph, or the allied countries may win victory through attrition—by putting man power against man power and grinding down the diminishing resources of the Teutons. Mr. Simonds has analyzed carefully the available numbers in each of the chief warring nations. From his figures you can easily see what the end will be if, as now seems true, the process of attrition will grind out a decision.—THE EDITOR.

A FEW weeks ago ago I made an estimate of the losses of the Germans in the first three years of the war, comparing these with French losses. The figures I was able to get hold of at that time were, as I pointed out, incomplete and unsatisfactory.

Since that time, however, the French general staff has published an official estimate of the German losses and of the German numbers. Such an estimate may be accepted as very close to the fact, because, as everyone knows, just as the German sources of information as to French losses and French military conditions are reliable, the French estimates are similarly trustworthy. There is really no mystery so far as numbers of men are concerned for any of the nations at war.

The figures of the French general staff show that Germany had available for service for the first four years of the war 11,200,000 men, while 200,000 men were prevented from returning to the colors by the blockade of Germany, which cut off overseas contingents.

Eleven million four hundred thousand, the total figure, represents just about one sixth of the population of the German Empire at the outbreak of the war—that is, something more than 68,000,000. Germany, then, has permanently lost 4,000,000, and has 5,500,000 on the line and behind the line in necessary services. Probably not more than 3,000,000 to 3,500,000 at the most are actually engaged in fighting or are in immediate reserve. She has 600,000 men, mostly of the class of 1920—that is, of boys who are now only seventeen years old—and 600,000 more men now in the hospital who some time in the next six months will be returned to duty. This total will be reduced before the beginning of the campaign of 1918 by the permanent losses incurred between now and the first of April. These losses will not be less than 60,000 a month, and we may safely figure that 300,000 men will thus be eliminated before the next campaign opens. In other words, the maximum of possible reserves of Germany for the campaign of 1918 will be 800,000 men, and of this number more than half will be boys not more than eighteen years of age, and 150,000 more will be boys of the class of 1919, who will have reached only the age of nineteen next year. Three fourths of the reserves that Germany will have for next year, then, are boys of nineteen and under.

The permanent loss of Germany in the first three years of war was slightly under 4,000,000—an average

age permanent loss of 1,300,000 a year, but the loss was much greater in the first two years of the war than in the last year, because in the first two years there was much heavier fighting. The Russian collapse of this year has resulted in relieving the pressure on the eastern front, and thus directly reducing the casualties. It has also compelled the Allies on the western front to abandon their plan of seeking a decision this year by tremendous offensives, and thus the German loss has been materially smaller on the western front, too, than it was either in the days of the Marne campaign or in the later Verdun episode.

It is not too much to estimate that the German losses for the six months of campaign next year will

percentages of German man power and apply them to France. The French loss has been a little smaller in proportion to the French population than the German, but not much. This is evidenced by the fact that the French have not yet called up any of the class of 1920 or put in any of the class of 1919. The French class consists of some 225,000. So we may say that the French are just one class better off than the Germans.

Now, the total white population of France and of the colonies from which troops have been drawn was, after deduction is made for alien population, a little more than 40,000,000. France, therefore, mobilizing one sixth of her population, would have called to the colors 6,750,000, and this in point of fact is the case,

as outside information has demonstrated. The permanent German loss was 35 per cent of the total mobilization, and this would mean in the case of the French 2,360,000. The temporary loss of the Germans—that is, men in the hospital who will come back at some time—is 500,000, which is, roughly speaking, five per cent. On the same basis the French temporary loss would amount to about 350,000. In all, then, the French permanent and temporary loss would be 2,700,000, and the French troops now available would be 4,050,000. In point of fact, France has used somewhere between 100,000 and 200,000 native troops and troops of the Foreign Legion coming from other countries, and this element has reduced slightly the cost to the French population itself. We may say, however, that the total permanent loss of France has been something less than two millions and a half, and that the reserve of France now consists of the two classes of 1919 and 1920, not used in any part. The 1919 class has not been called up; the 1920 class is

merely coming up for instruction. With the 350,000 wounded who will return, that means some 800,000 men, and that the French have on the line and on communications now something like 3,600,000. These French numbers will be reduced by the French losses in the next five months, which will probably be almost as great as the men coming out of the hospital. Therefore one may reckon that the French reserve has something like 500,000 men for the campaign of next year.

To these reserves of France it is now necessary to add whatever troops America will have in France during the campaign of 1918, because we are to take over a portion of the French line, and the effect of our arrival will be precisely as if France had had another reserve amounting to the number of American troops which will become effective next year. Suppose then that France has 500,000 men in her two classes and the United States should get 500,000 men to France for next year's campaign. This would mean that the reserves of the French would amount to a million men, which is approximately 200,000 more than what the reserves of the Germans will be. Here is a refutation of the assertion that France must stop because she has been "bled white." My own judgment is that all these figures with reference to France are slightly unfavorable, and that the French situation is in a degree better. It certainly is not worse.

Now, as far as the British are concerned, their losses have been very greatly less than those of France or Germany. It was not until the battle of the Somme in July, 1916, two years after the beginning of the war, that the British began to participate in the European campaign on something like the scale of France and Germany. [CONTINUED ON PAGE 10]



Central News Photo Co., New York

A few of the 200,000 German soldiers captured by the English and the French on the western front during the last twelve months. The prisoners are kept in cages such as this until they can be removed to a permanent camp

be in excess of 200,000 a month, and this means that some time before September German reserves will be exhausted and Germany will have to face the problem of shortening her lines or else courting disaster.

If Russia is able to take her part next year, or any considerable part, then Germany's loss will not be less than 250,000 a month. It is barely conceivable that a complete failure of Russia would enable Germany to hold on next year, even with reduced effectives. This would postpone a decision until 1919, but it would mean that after the campaign of 1918 Germany would be unable to bring to the front any new troops except the boys of the class of 1921, who would then be eighteen years of age.

The important point to notice here is that the war now has become for Germany the sacrifice of her youth.

### Grinding Youth Corn of Germany

JEFFERSON DAVIS'S phrase of "grinding the youth corn of the Confederacy" is finding significant application in present German military statistics.

So far as Germany is concerned, then, the mathematics of the situation are simple. Having lost more than a million and a quarter on an average in each of the three years of conflict, Germany now confronts the certainty of a fourth year with a reserve of less than a million men, made up of boys who cannot have the military value of the older classes. This was the situation of Napoleon in 1812, when his famous "Marie Louise" youngsters displayed a gallantry never surpassed but were unable to repeat achievements of the soldiers of the revolution with which Napoleon won the great battles.

Turning to the situation in France we may take the



# Making Butchering Easier

## Methods That Take the Drudgery Out of Hog-Killing Time

By MRS. L. E. ARMOUR

**W**HEN we butcher hogs we prefer a clear, cool day, with the wind from the north. All necessary preparations are made beforehand as much as possible. If a number of hogs are to be dressed, they are not all killed at the same time, as standing seems to impair the flavor, but to make good time we aim to have one ready for scalding as soon as the one before it is finished. A small amount of lime added to the scalding water will not injure the meat in any way, and it makes the hair slip much more easily and the skin is whiter.

The carcasses are pulled from the scalding barrel, and put on a long platform which is a little lower at the end farthest from the barrel. This lowering of one end gives the water a chance to drain off, and the hair and scurf is more easily cleaned from the platform. The best procedure in removing the hair is to begin on the head and feet. These are the hardest to dress properly, and when they become cold they are an almost impossible task.

Every advantage of heavy lifting is taken. We do not try to lift a heavy hog in this manner. The old way. Our method is simple. The carcass is rolled from the platform on to a strong chair. Two men can carry a very heavy hog in this manner. The hog may now be taken with a minimum of effort to the place where it is to be hung. A number of devices may be employed to save the heavy lifting. The gambrel stick may be slipped out of one leg, put around the pole, and reinserted in its proper position. Then it is easily possible to push it up to a notch cut in the pole, which is used as an inclined plane. A block and tackle may be tied to the limb of a tree and the gambrel stick tied to the lower pulley. If a pair of pulley-wire stretchers are handy, they are the best, as they have a patent grip that holds the hog securely at any height. Now we are ready to dash cold water over the body.

We remove the entrails next, being very careful all the while that they be drawn intact. We place a stick between the ribs to hold the sides apart, rinse out with cold water, and we continue with the others until they have been brought to the state of the one described.

It is time to begin cutting and trimming the first when the last hog is dressed. Hams, sides, and shoulders are trimmed to the desired size and carried to the smokehouse, where we spread them singly on shelves and sprinkle them with salt. Heads are soaked in water to remove the blood, and handled in the same manner.

Skins should be cut from the pieces that are to be used for lard, and all lean taken off for the sausage. The skins are cooked alone. The lard fat is cut into small pieces and the sausage meat into chunks for grinding.

Here is the brine we use for 100 pounds of meat: Salt, eight pounds; saltpeter, pulverized, two ounces; brown sugar, two pounds. Dissolve in six gallons of water.

This brine is placed in the kettle and brought to the boiling point, and cooled overnight. Then when the meat is placed in a clean barrel, joints first, the solution is poured over it and a clean cloth tied over the top of the barrel.

The lard fat is placed in the kettle with just enough water added to keep it from sticking. Stir it constantly, and add fire sufficient to keep it cooking. We bring our sausage out by the fire and grind it while we render the lard. Use only a good grade of pork for sausage. Three pounds of the lean to one of the fat is near the right proportion. The combining should be done before the grinding, as the grinder gives a much more thorough mixture than can possibly be made by hand. Most good sausage makers put the meat through the cutter the second time. At the second grinding the seasoning may be added. For four pounds of meat the following is the proper amount of seasoning, although it will be best to add or subtract to make it suit your own taste: One ounce fine salt, one-half ounce of black ground pepper, and one-half ounce of powdered sage. If the red color of the meat is desired a little saltpeter will keep it.

Sausage for immediate use may be packed in crocks and jars. A very good method is to pack the jars tightly and set in an oven and heat until enough lard has run out to make a covering over the top. Expert sausage makers advise covering the jar with cheese-cloth and pouring melted paraffin on the cloth to fill up the pores. It is no trouble to keep the sausage for

months this way. Always keep in a cool and dry place.

Then the casings may be used as a container. They are the small intestines of the hog, and have been thoroughly cleaned, washed, and scraped. A special stuffing machine is used to pack the sausage in them. My own favorite way is to pack the sausage in muslin bags. It seems better if it is dried a while, and after the drying we pack it away in crocks and cover with lard. Mixed sausage is made by allowing one pound of lean beef and one pound of fat pork to two pounds of lean pork. It is handled the same as pure sausage.

In making souse or hog-head cheese, one head should be used with about twelve feet. Boil them together until they are perfectly tender, and remove the bones. Mash the meat thoroughly, and season with salt, pepper, and sage. Store in a deep pan or crock until well cooled, and then it may be fried, or sliced and served with vinegar, as desired. Liver cheese is made in the same way, using three livers, one head, and eight feet.

At butchering time there is so much fresh meat and "bones" that we seldom eat all of the livers. The French in Louisiana have the following way of taking care of it, and it is an extremely appetizing food when rightly prepared and served: Cook as many livers as desired, boiling until perfectly tender. Mash well, add salt, pepper, paprika, sage, minced onions, or garlic to suit the taste. Add one third as much rice that has been thoroughly cooked and seasoned. Stuff it in well-cleaned paunches and hang to dry. It should be smoked a little with cobs or hickory wood. After the smoking operation it is sliced and fried.

Backbones and ribs, if unsalted, can be hung in the

the jaw next to the neck bone, just below and behind the ear, and cut outward. Then break the neck by placing one hand on the forehead, and with the other at the point of the jaw pull upward. This stuns the sheep.

First take out the tongue by cutting the skin on each side of the lower jaw and cut off at the root, then wash in cold water and scrape with a knife from the tip backward. Start on a line between the knee and shoulder joint, cut out a small strip of skin down the front leg to the ankle, open down over the shoulder joint to the center of the neck in front of brisket and down the center of the neck.

Be careful not to cut the fell which covers the outside of the carcass and avoid cutting gashes in the carcass. Do the same on the other leg. The hind leg should be held in the same manner. Start on the hind leg between the hock and tail and cut out a strip down to the foot, then open to a point below the tail. The openings are made on the back of the hind leg and the front of the front leg.

The next step is to begin the fisting. The hand should be perfectly clean and dry and kept so until the pelt is removed. First fist off the under side of the sheep. Do this by grasping the piece of pelt on the front of the brisket and pull the pelt backward over the brisket. Continue back over the front part of the belly. Next start in the rear by grasping the loose piece of pelt and fist down over the flank stifle and inside the leg-of-mutton, always working from behind to avoid tearing the flesh. The sheep is now ready to be hung up.

First loosen the tendons in the hind legs and pull the pelt off the legs, skin the leg down to the foot, and remove the foot at the lowest joint. Tie the hind legs together, and hang up the carcass at a height convenient to work with. After the sheep is hung up, split it down the center and remove the front feet. Now you begin to "fist." Start near the center of the belly and work upward and around, always fisting upward on the leg to prevent pulling off the fell from the carcass. After the leg is fisted off, fist downward over the shoulder to the opening made in the neck and pull the pelt from the front leg. Now you may fist off the other side.

Loosen the tail from the pelt, pull the pelt down toward the head, and remove the head at the joint where it was broken in killing the sheep. When cutting off the head, cut from the underside outward. This will leave a nicer appearing neck. Cut off the ends of the windpipe and gullet, raise the front legs, and make an incision in front of the breast bone and cut down to the center of the neck so the blood will drain out of the large arteries and

heart. If the sheep has been cleanly dressed, all that will be necessary is to wipe the carcass with hot water and a cloth and then thoroughly dry. The hot water will bleach the carcass and give it a much nicer appearance. In hot weather it should be washed with cold water to aid in cooling.

The next step is to remove the viscera. First see that the windpipe and rectum have been loosened. Then make an opening in front of the cod or udder down the middle line of the body to the breast bone, holding the point of the knife between the fingers to guard against cutting the internal organs. Pull the paunch loose, and then pull the large intestines downward. Pull the viscera forward and cut the gullet below the stomach, removing the liver with the intestines and stomach. Remove the gall bladder from the liver and examine it for parasites. If healthy, put in a pail of cold water to cool quickly. Now remove the pluck. This is done by cutting around the diaphragm, leaving the hanging tenderloin, then loosening the large blood vessel from the backbone and pulling out the pluck.

Mutton is the easiest carcass to cut, as each main division yields cuts about the proper size to be used by the ordinary family. Have a solid block on which to lay the mutton, a sharp knife, and a meat saw. Always cut across the grain of the meat, and make clean, smooth cuts. For home consumption the carcass should be split down the center. In this way less surface will be exposed to the air and less waste will result.

The leg-of-mutton is the most desirable cut. The loin is termed the highest priced cut of mutton. It can be distinguished by the small muscle under the backbone, which is called the tenderloin. The rib is used the same as roasts and chops.

EW



Hog-killing time brings plenty of fresh meat for the table, with pork chops, spareribs, sausage, and the promise of hams and bacon for the winter

smokehouse in fly-proof sacks, and will not taste old for several days. After we have left our meat in the brine from three to five weeks—the colder the weather the longer we leave it—we smoke it over a hickory fire and pack it in rat-proof receptacles, placing corn husks between the layers.

## Slaughtering Sheep

By ANDREW M. PATERSON

**T**O HAVE good mutton the sheep must be in good health, fat, and gaining in flesh. In preparing for slaughter, the sheep should be taken off feed for about fifteen hours, with the exception of lambs, which are liable to worry if taken from their mothers, causing a rise in temperature. Always handle the sheep with care. Do not chase, kick, or pound them around, and never pull them around by the fleece, as this will leave colored and bruised spots on the carcass. The proper way to catch a sheep is by the hind leg, neck, or rear flank and hold it by placing one hand under the lower jaw and the other at the dock. If these few precautions are carried out the sheep will bleed better, cool out more quickly, dress more easily, and, above all other things, the carcass will have a better appearance and the flesh will have a richer color.

The important things in killing and dressing sheep are speed and cleanliness. Place the sheep on a box so the blood will run away from the fleece; place one knee on the fore flank, grasp the sheep under the jaw with your left hand, stick the knife into the angle of



# Bullets and Beefsteak

## American Royal Exhibitors Say War Revives Cattle Industry

By J. A. RICKART

NOT quite as many animals were shown at the American Royal Live Stock Show held at Kansas City, October 1st to 6th, as in former years, but quality and breeding were never better. There were fewer state-fair adjuncts, the show resolving itself strictly into an exhibition of the best breeding cattle of three beef herds—Hereford, Shorthorn, and Aberdeen-Angus.

The Royal is purely a breeders' show, and each association appropriates liberal money prizes. The gate receipts are counted on to pay the running expenses of the show, and if there is a surplus it is divided among the associations and the Kansas City Stockyards Company, which is a member of the corporation. Thus the prizes are guaranteed, and do not depend on the gate receipts. The Shorthorn association appropriated \$2,500 in prizes in the futurity stakes alone, a feature that neither of the other associations support. This year there were 150 entries in the Shorthorn futurity classes.

Thirty-seven Hereford breeders came from twelve States, twenty-four Shorthorn breeders came from eight States, and seven Aberdeen-Angus breeders came from five States. Georgia, Kentucky, Mississippi, Wisconsin, Minnesota, Washington, Montana, and Texas were the States represented most distant from Kansas City. All near-by States had exhibitors, in all sixteen States exhibiting.

The prime object of the show rings is to sell stock. Many of the exhibitors advertised their annual or semi-annual auction sales, in addition to making private sales. A Royal prize must be won over prize-winners at state fairs, and adds materially to the value of the animal securing it, as well as bringing prestige to the herd to which the prize-winning animal belongs.

The C. D. and E. F. Caldwell herd of Nodaway County, Missouri, took both male and female grand championships in the Aberdeen-Angus classes with their aged bull Black Cap Bertram and aged cow Queen Milly, respectively. G. F. Cowden & Son of Midland County, Texas, and Congden & Battles of Yakima County, Washington, also took a good share of the prizes in the Aberdeen-Angus classes.

The Shorthorn competition brought some new blood into the spotlight, mingled with some veteran show animals which continued to make good. Among the latter was the female grand champion Viola, exhibited by W. C. Rosenberger, Seneca County, Ohio. This cow was calved February 14th, 1915, and was grand champion of the female Shorthorns at the Royal last year, when in the yearling class.

Carpenter & Ross of Richland County, Ohio, got first on aged bull, with Revolution. The grand championship in Shorthorn bulls went to Uppermill Farm, Louisa County, Iowa, on the yearling bull Villager's Coronet. Bellows Brothers of Nodaway County, Missouri, got three much valued prizes, first on aged herd, first on young herd, and the Stockyards trophy for best ten head of Shorthorns exhibited by the owner. Capt. T. E. Robson, London, Ontario, judged the Shorthorns.

While the corn belt has heretofore claimed the greatest breeding establishments, other sections, the South particularly, made a strong showing at this year's Royal. Col. E. H. Taylor, Jr., Hereford breeder of Versailles, Kentucky, captured more prizes than anyone else at the show. Mississippi and Texas had good exhibits, and Redwine Brothers of Fayette County, Georgia, had a fine exhibit of Herefords. This herd took second in the aged-bull class, with Star Grove, a Beau Donald bull of acknowledged merit.

"Redwine Brothers have 118 head of pure-bred Herefords in their herd, from eight years old down to calves," said R. E. Hardy in charge. "We have about 1,000 acres in the place, and in addition to handling pure-breds we feed from 500 to 1,500 cattle every winter, which we market in Atlanta. We raise no cotton, and there are many farmers in our section who quit raising cotton because of fear of the boll weevil rather than from any actual damage. We have not suffered from it in our section. Corn, velvet beans, and peanuts are raised in place of cotton. We make a peanut meal equal in feeding value to linseed meal. We started our pure-bred herd three years ago."

The Hereford exhibits led in numbers over the other two breeds, and con-



The Nebraska judging team won first in the judging contest at the National Hog Show. This is the team and coaches

tained some of the highest class animals in existence.

Col. E. H. Taylor, Jr., himself eighty years of age, had the honor of taking this year the \$500 silver cup given by Señor Carlos Pereda of Argentina, given to the exhibitor showing the best three bulls bred and owned by the exhibitor. Colonel Taylor also took first on aged herd.

A leading breeder was asked how the war was affecting the demand for pure-bred cattle, and he said: "The war has brought high beef-cattle prices, and those breeders of beef cattle who have dropped out in recent years because of the breaking up of the ranges are now keen to get back into cattle-raising. They are buying pure-bred bulls, and getting together a herd of good heifers."

The war has stimulated the demand for bulls for breeding beef cattle, which, after all, is the real basis of the success of pure-bred cattle breeders.

## National Hog Show

By JAMES CALDERHEAD

THE aristocrats of the swine world, the successful competitors at the various state fairs and expositions throughout the country, more than 1,500 strong, were assembled at the second annual National Swine Show held in Omaha, Nebraska, October 3d to 10th. The barns of the South Omaha Horse and Mule Company, near the Union Stockyards, housed this wonderful array of proud pork. Larger and of a higher quality than the show of last year was the unanimous verdict of the show officials in expressing their opinion of this year's hog classic.

The best hogs of twenty-two States, the same number as were represented last year, were exhibited again this year by approximately 140 exhibitors, about a third more than were present in 1916. Cali-

fornia on the west, Texas on the south, Minnesota on the north, and Massachusetts on the east were all represented by swine exhibits. The exhibitors from far and near came with the cream of the pork products of their respective States. The attendance was just as representative of the entire country as were the hogs.

Twenty cents a pound for market hogs has aroused the farmer and breeder, and has caused them to take a greater interest in the pure-bred business, in which the prices are proportionately higher. Particularly well were the Southern States represented. In that section good hogs have been scarce in the past, but now the South is waking up, and demanding a hog with size and conformation that will put on as much as possible of this 20-cent fat.

The indications were that the Hampshires were first, and the Duroc-Jerseys second in numbers, Chester-Whites third, and Poland-Chinas fourth. There was but little difference in the number of hogs exhibited in the first three breeds. In the Duroc-Jersey classes, in which the larger number of breeders were entered, the judging was particularly interesting and difficult. In some of the classes the judges required more than an hour to determine which of the numerous contestants were

entitled to the ribbons. So large were the Duroc entries that the judging had to be done in a large tent outside the show barns, where all the hogs and the interested spectators might be congregated.

The Duroc-Jersey exhibitors were largely from the corn-belt States. Breeders in Iowa and Nebraska favor this breed, and the number of premiums they were winning was evidence of their ability in developing ideal types in these animals. The aged-boar class in the Duroc-Jersey division at the National Swine Show has never been equaled at any other exhibition in the history of the breed, it was asserted. The judges were one hour and thirty minutes in placing this class. Ira Jackson of Tippecanoe, Ohio, was a consistent winner among the Duroc breeders, thereby repeating his success at the show of the previous year. Hampshires, Chester-Whites, and Poland-Chinas were uniformly represented from the various corn-belt States. The Berkshire exhibitors were not as numerous as those in the other breeds, but they came from both the west and east coasts, and the quality was said to be the best shown since the St. Louis World's Fair in 1904. Several herds of Spotted Poland-Chinas and Yorkshire hogs were exhibited. One of the human interest features of the show was three pens of red, white, and blue hogs, an emblem of patriotism in the swine world. The red was represented by the Durocs, the white by the Chester-Whites, and the blue by a pen of cross-bred Poland-Chinas, Durocs, and Chester-Whites.

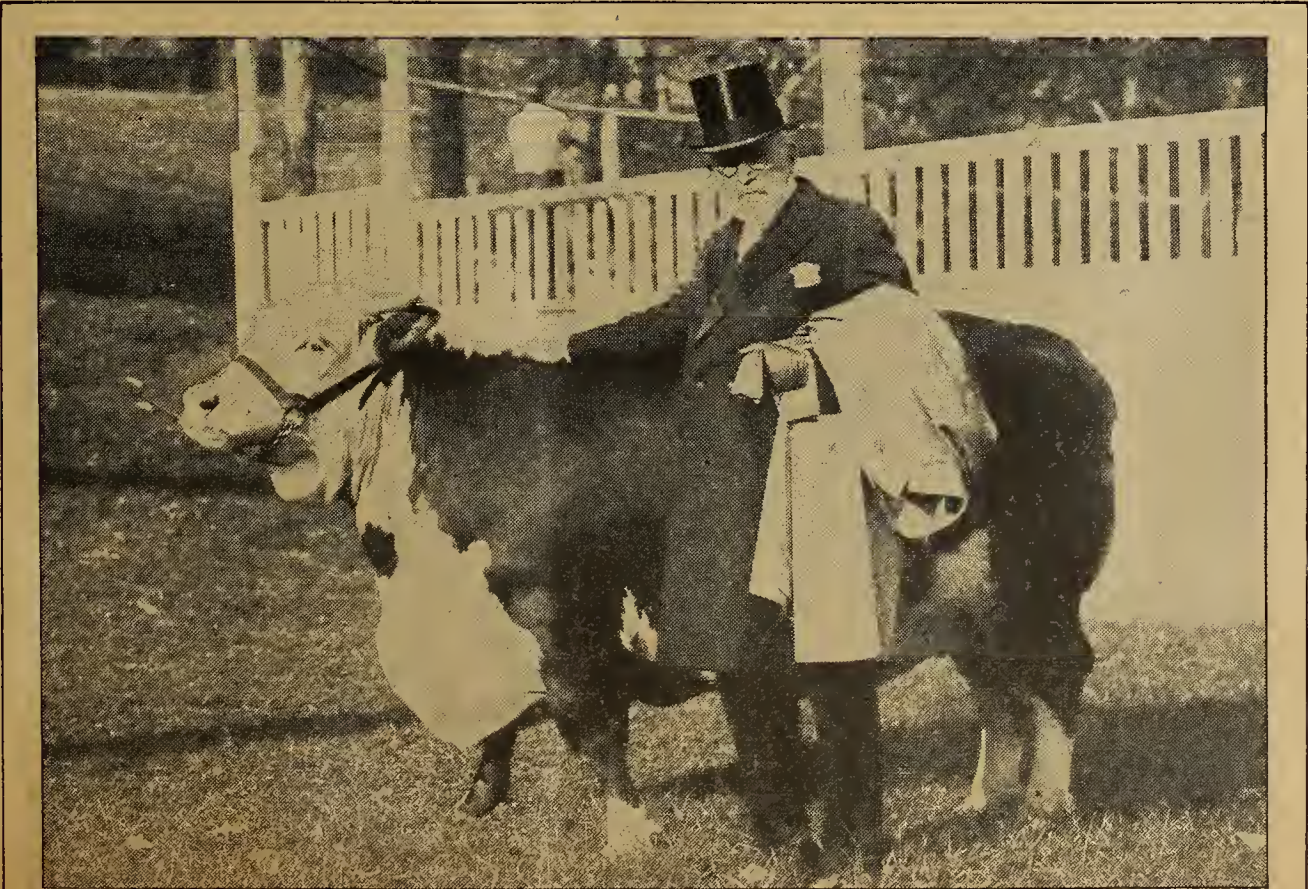
It was noticeable that the judges favored the hog of the big type. Just now, with the serious food shortage, particularly of meat products, the large hog may well be selected as the favorite. This is important from the standpoint of producing more food, and the fact that pork is around 20 cents a pound.

One of the important events of the National Swine Show was the meeting called by Herbert Hoover to gain from the representative swine men of the country an idea as to the best methods of increasing the swine production of the country. Gifford Pinchot was sent to Omaha by Mr. Hoover as a representative of the Food Administration Department. There is urgent need of an increase of 20,000,000 hogs in the United States above the number which the present prospects indicate will be produced, Mr. Pinchot said.

Similar meetings had been held previously at Kansas City and Waterloo. Resolutions were passed recommending that the Government assure the pork producers a fair price for their hogs. In figuring the cost of production it was recommended that not less than the value of 14 bushels of corn be allowed for determining the cost of 100 pounds of live pork, a ratio of 14 to 1.

The Omaha conference, which was attended by several hundred representative swine breeders of the country, endorsed these resolutions.

Mr. Pinchot said he felt sure that the policy of the Food Administration would be governed by the attitude of the swine growers, and he returned to Washington with the assurance that the swine men of the country will meet the needs of the country in the pork line, in spite of rumors to the contrary.



Col. E. H. Taylor, Jr., eighty years old, who won the \$500 silver cup given by Señor Carlos Pereda of Argentina to the exhibitor at the Royal showing the best three bulls bred and owned by the exhibitor





## The Instant Summons

*"Instant, through copse and heath, arose  
Bonnet and spears and bended bows;*

\* \* \* \* \*

*As if the yawning hill to heaven  
A subterranean host had given."*

The whistled summons of Roderick Dhu, the hero of Scott's "Lady of the Lake," caused his Highland warriors literally to spring from the earth. Ere the echo died away, from behind bush and rock emerged the loyal and ready clansmen. In armed silence they awaited their chieftain's bidding and typified his might.

Today the Commander-in-Chief of our nation's armed forces and the resources behind them, can, by lifting the telephone receiver,

instantaneously set in motion all the vast machinery of warfare, munitions, transportation and food conservation.

Like the Scottish mountaineers, the American people must stand in loyal readiness to perform any service in furtherance of the nation's high aim. Such a spirit of co-operation and sacrificing of individual interests can alone make certain the accomplishment of the great task to which our country is committed.



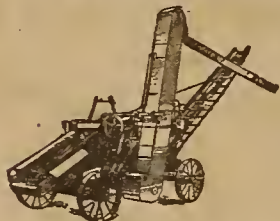
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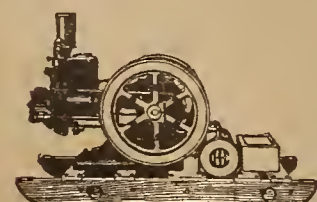
**Keystone Shellers**, adaptable to large or small ears, shell hard or soft corn clean without cracking the kernels or crushing the cobs. There are eight styles in 1, 2, 4, and 6-hole sizes, with capacities from a few ears shelled by hand, up to 4,000 bushels per day.



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## International Wheat Show

By J. C. HOLMES

THE grain, forage crops, and vegetable exhibits at the International Wheat Show, held October 1st to 13th, at Wichita, Kansas, were good. The commercial displays were very interesting.

The wheat displays in bushel measures were of much higher test and quality than in previous years. The unique displays of farms and counties included almost every crop grown in America. One county had a house built of saccharine heads. Platforms on either side of the hall held displays of enormous melons and vegetables. The remaining space was taken up with corn and kafir.

Northern Kansas sent the best corn, and the center and west sent the prize kafir. Forage crops were represented by bales of green-cured alfalfa, Sudan grass, and sorghum. Oats, wheat, and barley, and particularly the latter two grains, were the best ever shown.

In the horticulture department the main attraction was the big exhibit of high-quality apples and canned goods. Of the apples shown, the Winesap family predominated. The many tables of canned fruits and vegetables were mostly labeled "Mothers' and Daughters' Canning Clubs," and showed the great work the canning clubs are doing. The enthusiasm received by the canning demonstration, which was given every afternoon, showed the work yet to be done by federal and state governments. Although this show is called the International Wheat Show all farm crops are shown, and it adds greatly to the exhibits.

The commercial exhibits were far larger in number than ever before, and ranged from the small patent appliances to million-dollar oil wells, one of the most artistic booths being one made by a packing company of solid lard, and was a snow-white statue of a military horse and two officers.

The dairy department was only moderate with a showing of several herds of high-producing Holsteins and Jerseys. A large chart showed the quan-

tity of food a dollar would buy, and compared milk with the staple foods of to-day for cost. The dairy department was accompanied with shows of modern barn equipment, different kinds of silos, and an up-to-date butter-making plant, where butter was made each day.

Colorado, California, Montana, Oklahoma, and Canada made large exhibits of their farm crops. The display made by the U. S. Government was very attractive. Models of the big warships, torpedoes, shells, guns, and numerous individual equipments were viewed with wonder for the first time by many of the people of the great plains. One whole room was taken up by the U. S. road-making models, disease specimens of plants and animals, pure seed samples, and the State's safety appliances.

On every hand the Red Cross work was being furthered, and the women were registering for any work they could do to help the soldiers. The suffragists made a parade on the night of October 5th. They drew such a crowd that many were turned away without a chance to see them.

The Federal Farm Loan Bank had a booth, and explained the process of borrowing money at a low rate of interest to the people who came for first-hand information.

The annual International Wheat Congress was held on October 8th, 9th, and 10th. The main topic was the fixing of the price of wheat and other products. The meeting was well attended by eager wheat raisers, all anxious to express their conditions and opinions. Their main anxiety was over the shortage of labor and the high cost of machinery. The increased enthusiasm at this meeting showing the gaining qualities of the farmers to co-operate and do their part in producing.

The International Wheat Show as an annual event is becoming more popular each year, and will result in the building of a large \$250,000 hall annex to the large Forum, where the event is now held.

## The New Farm and Fireside

*A Statement by the Editor*

THIS is a day of changes. In the six months since the war broke on us there have been more changes in our lives than in the six preceding years. In hundreds of FARM AND FIRESIDE families the boys have gone to war, in others army work has taken both young men and young women away from home to help in some other branch of our great national undertaking. The increase in the cost of foodstuffs has changed the housekeeping habits of a lifetime for many a woman. The high price for all farm produce has meant a small fortune for many FARM AND FIRESIDE readers. Change and prosperity, change and progress, are universal.

And so the old FARM AND FIRESIDE is to become the new FARM AND FIRESIDE. In other words, we are going to pass along to our readers a great big share of the prosperity that has come to us these last few years by giving them a bigger and a better FARM AND FIRESIDE.

First, instead of sending you a farm paper twice a month, we are going to send you, beginning with the new year, a veritable farm magazine once a month. More articles, more and better pictures, more departments, more fiction—in fact, the best farm magazine published in America.

Second, the price of the new FARM AND FIRESIDE will be 25 cents a year. Consequently, all subscriptions now on our list will be extended so that you will receive the same number of copies as

you originally subscribed for at the old price. New subscriptions will be entered at 25 cents a year, three years for 60 cents, and five years for \$1.

The editor's plans for the January number—the first issue to appear in the new form—are already finished. No farm paper in America has ever presented to its readers so many and such interesting articles. We are not going to detract from your pleasure by telling you much about them beforehand. Even now the Poultry Number, to be published in February, is under way, and after many weeks of working and planning the editorial contents for the entire year have been definitely outlined.

We want all our old readers, some 600,000 strong, to see the new FARM AND FIRESIDE. Thousands of us have been friends for many, many years, and now when the opportunity has come to give our readers a new and a better magazine than they have ever had before we want you to be sure to stay with us.

If your subscription has expired, or is about to expire, be sure to use the blank below to send in your renewal—the new price becomes effective at once. New subscribers will be presented with the November and December, 1917, issues and their subscriptions will start with the new year.

*The Editor*

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# Harvesting Kelp

## Sea Tree Grows on Rocks Near Surface of Water

By GEORGE PARSONS

SINCE the beginning of the Great War kelp has been used as a source of potash needed in the manufacture of explosives. To many who live far from our coasts this may sound unusual.

Kelp is what many call seaweed, but is more properly a sea tree. Its roots are firmly attached to rocks that are near the surface of the water. Unlike trees there is no heavy trunk to support the foliage. Near the fan-shaped leaves the stem enlarges and forms a hollow space about the size and shape of a guinea egg. This space filled with air supports the tree, and when the branches are long enough to reach the surface of the water these buoys float and carry the leaves. This gives the water a brownish appearance.

How does the air get into these hollow spaces of the enlarged stem while growing under water? The kelp is evidence that it does.

Kelp grows very rapidly. It can be cut to a depth of ten feet every four or five weeks. It seems to be of better quality and just as heavy a crop when harvested frequently and properly.

With no regard for the conservation of our resources, a few persons began to harvest kelp by dragging piano wire in such a way as to detach the entire plant by its roots. The state and federal Governments promptly put a stop to this method, so that now there are many firms engaged in a systematic and legitimate method of harvesting.

The largest kelp-cutting fleet is owned and operated by a large powder company in San Diego. The fleet consists of three large boats such as the one shown in the illustration, four barges, and two tugboats. The three large boats are provided on the front end with a movable conveyor on the bottom of which is the moving machine. This is simply the ordinary hay machine for mowing, except that it cuts a swath 20 feet wide. In addition to the sickle bar in front, which works horizontally, there is also one on each side which works along the edge of the conveyor so as to prevent clogging in an extra heavy growth of kelp.

When ready to begin cutting, the conveyor is moved forward. As it is on an incline plane the sickle bar may be lowered to any desired depth. The conveyor receives the kelp as it is cut, and carries it up to a point above, where a very large cylinder is revolving at high speed. This cylinder is similar to the cylinder in a threshing machine, but much larger. The kelp is here torn into very small particles, and the released juice causes the liquid mass to flow into the hold of the boat, which has a capacity of 300 tons.

As soon as the hold is full the boat leaves the field and proceeds to one of the barges, and by means of a centrifugal pump the kelp is soon transferred to the barge. When two barges are loaded, one of the tugboats takes them to San Diego. The fleet moves up and down the coast. Rocky points within 100 miles of San Diego are visited by the fleet every six weeks. The fleet works twenty-four hours a day. Search lights are used at night.

Some smaller companies are located at Long Beach and San Pedro Harbor of Los Angeles; but most of their product is dried and used as fertilizer. Their cutting boats are smaller, and are lashed alongside the barge which receives the kelp by means of a second conveyor

without grinding. Some persons believe that the regular cutting of the kelp is responsible for the fewer fish that have been caught in the last two years.

Be that as it may, the kelp beds are at present so important a source of potash supply to take the place of that formerly secured from Germany that the fish interests must be of secondary consideration. The most plausible explanation of the lessened number of fish seems to be that the steady operation of the kelp-harvesting machinery has disturbed the fish and driven them from that locality. Such disturbance is likely to prove only temporary, for it

rig cost me \$20, exclusive of the labor.

I use my tractor for plowing, disking, harrowing, harvesting, and road-grading. I have also run a good-sized clover huller with it. Many persons advocate early plowing as a means of making our grain crops larger. The sooner the ground is plowed after the grain is harvested the more chance it has to settle down into a compact seed bed—it conserves the moisture in the soil. I can average about four acres a day plowing with my two 14-inch gangs. Last fall farmers came from all directions to ask me to plow for them, for the ground was too hard and dry.

In the spring of the year I use my tractor on a seven-foot double disk harrow, and often pull a drag of the same width behind my disk. It takes four good horses to pull such an outfit, and probably they would need a little rest once in a while. What I like about my tractor is that it never knows when quitting time comes. Last spring in a rush of work I even did some of my disking after dark. I had a bright light tied to the front end of the tractor.

Also, during harvest the tractor can be used to far greater advantage than horses, because this machine can be drafted into service with one or more grain binders, and requires no delay on account of the heat.

Last summer I hitched the binder to the tractor, cut my wheat and oats, and also cut some for my neighbor. It worked real well, and only took one man to operate it. I had a spring fixed on my bundle carrier that would be strong enough to raise it after it had dumped the bundles. So all I needed to do was to dump the bundles,

which I did with my foot by pushing down on the little pedal I attached near my seat on the tractor.

Making the square turn wasn't very difficult, for I can turn in a 20-foot circle. I keep the corners round instead of square. I also believe the levers could be fastened to the tongue right behind the operator in order to adjust the binder and tilt it wherever the grain lodged badly or the straw is short.

All things considered, I cannot get away from the idea that many farmers are making a mistake in trying to do all farm work with horse power when some of the heaviest work can be done better and with less expense with a tractor; also seeding and harvesting can be pushed more rapidly.

### Ride in a Pulley

By J. G. Jeffers

SOME years ago, when working in a paper mill, I was ordered to tighten a pulley. It was six feet in diameter and ten feet from the floor. I took a monkey wrench, went up the ladder leading to it, and crawled into the pulley. I had to do this in order to reach the set screw. While I was at work the foreman, forgetting me, ordered the engineer to start up. But fortunately the engine moved only about six inches.

But the six inches of the engine made a half revolution of the pulley, which carried me halfway around.

The skin was scraped off both arms from shoulder to elbow. A full turn of the engine would have been the end of me. To avoid accidents of this nature, always notify the engineer before you begin repairs on pulleys or shafting and then tell him when the job is done.



This boat is really an ocean-going mowing machine. It cuts the kelp 10 feet under water

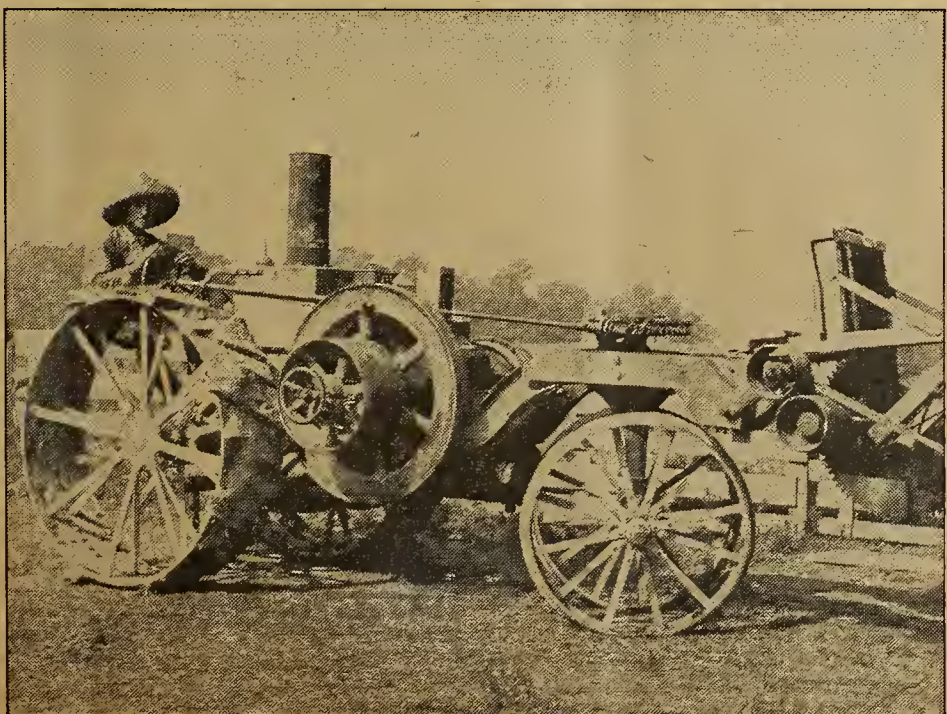
has been shown that birds and other of the more timid animals soon become accustomed to the operation of all kinds of machinery, and even to the terrific bombardment and commotion of warfare, which is much more disturbing than kelp machinery.

### Ready for the Next Job

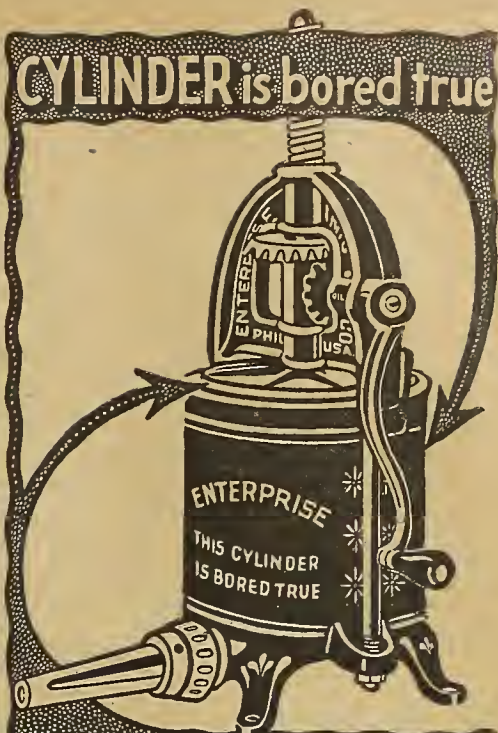
By A. F. Korte

I HAVE a tractor which I consider one of the handiest implements on my farm. I have now built a saw rig on it, which I can put on and take off in a few minutes. I can stack the whole thing up in a corner, where another outfit would take up more shed room.

This rig is not very difficult to reset. All I need to do is to raise the frame in the position you see it in the illustration, pull the lever, and under my command it will go back or forward wherever I want it. In two seconds, I can be sawing wood again. I won't need to block the engine nor stack the saw rig fast. I use a belt tightener instead of a fly wheel. The material used on this



Mr. Korte considers his tractor the handiest implement on his farm. He uses it for plowing, disking, harrowing, harvesting, road-grading, and sawing wood



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No. 22 Chopper, cuts 4 pounds per minute \$6.50

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NO MONEY DOWN if arranged for. Write for latest book—(copy-righted)—"How to Judge Engines"—and latest wholesale factory prices—Direct. I ship everywhere in the U. S.—guarantee safe delivery—Save you \$15 to \$200—make you the best price. I ship big engines—or small engines—on wire orders.—ED. H. WITTE, Pres.

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# FARM and FIRESIDE

THE NATIONAL FARM PAPER

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November 3, 1917

## Keeping Tab on Conditions

ONE of the largest wholesale hardware houses in the United States has for years maintained a complete crop-reporting service for the guidance of its own business. There are several hundred salesmen, and each one, as he "makes" his territory, takes careful note as to agricultural conditions. These findings are then transmitted to the company. At headquarters the figures are compiled under direction of one of the officials, who has made an extensive study of crop-reporting. The printed reports, together with excellent maps and graphs, are then mailed out to each salesman.

Why, it might be asked, should a wholesale hardware house be interested in crop conditions? The answer is easy. Agriculture is the nation's biggest business, and is the basis of practically all business. Furthermore, there is a direct and intimate connection between the work of the man who manufactures farm tools and the labor of the man who uses them.

Let us suppose, for example, that salesmen traveling in the Western beet-sugar regions of the country during the winter report heavy falls of snow. This means ample water for irrigation purposes the following summer. With plenty of moisture, conditions should be favorable for beet-growing. A large crop of beets creates a demand for beet-growing and marketing machinery and tools of all kinds. With this knowledge the company is able to figure intelligently as to future demands. If the prospect is for drought, hose and sprinklers, rather than lawn mowers and scythes, are to be supplied. A big corn crop calls for knives, scoop shovels, harvesters, additional wagons, and material for bins.

Now, if it pays a hardware firm to keep such a close tab on crop conditions, will it not profit the farmer to study carefully state and government reports? Farming is no longer a neighborhood business. We are interested not only in state and national production but in world crops. What the American farmer receives for his year's work may be influenced by the wool clip of Australia, the wheat yield of eastern Europe, or live-stock conditions in the Argentine.

## The Part Paint Plays

OWING to the prices of raw material and to the fact that we are constantly being urged to economize, many persons may conclude that they cannot this year afford to paint buildings that are in need of paint.

Now, the truth of the matter is that no one can afford to neglect to paint his buildings if they are greatly in need of a new coat of color. Building material is high, as is labor, and when these buildings must be repaired or replaced

their real value will be more highly appreciated than at present.

While paint serves the purpose of improving the appearance of property, it is far more useful as a protection than as an ornament. To paint a building or a piece of machinery is to preserve it and to add to its usefulness. And the fall time is a good time to apply paint.

## Selecting Seed Corn

TIME was when the selection of seed corn on the farm was looked upon somewhat as a fad. Sentiment, though, has changed until to-day we have come to consider the field selection of seed corn as a thoroughly approved business proposition.

This year, with corn selling at record prices, the proper selection and care of the seed cannot be too strongly stressed. No farmer can afford to risk weakening the germinating power of his seed corn by leaving it in the field until it is impaired by freezes. Nor could he afford to make selection from the crib, were it possible to take the corn through the winter in good shape. We want to know something about the breeding of the animal, what kind of parents it has, and in just the same way we should have a knowledge as to the breeding of

## So the Woodlot Will Pay

IF YOUR woodlot is not being cared for, you are losing a large profit. The woodlot occupies the richest soil, and in many cases it brings in the smallest return. To make this land profitable it is not necessary to cut down the trees, blow up the stumps, and plant it to grain or some other farm products. Just plant new trees where there are vacant spots, and cut out the undesirable trees so the valuable trees may grow and reproduce.

An investigation of the general conditions of woodland reveals the fact that many persons usually class their timber land as waste land, or practically such. Under this system of the timber land caring for itself, the yield of merchantable material is not sufficient to pay interest on the investment and taxes on the land, and from a financial standpoint it is unprofitable land to hold.

No one would expect to make a financial success of farming if he were to handle his business on the basis that most farmers handle their woodlot. The solution of the situation is this: The unprofitable trees may be cut and cleared from the ground, and the land stocked with a desirable species, just as proves profitable with other crops.



the ear of corn. The kind of stalk upon which it grew and the conditions under which it matured are both important. No one denies that plant characters, like those of animals, are hereditary to a greater or less extent.

Generally, choice is best made from a medium-sized ear. This ear should be on a stalk of medium height, a stalk having good brace-root growth with thick, heavy internodes below the ear, and the ear should be borne at about medium height. The shank of the ear is also important. It should be strong enough to hold the ear well, and yet not so strong as to prevent its hanging horizontally or lower.

After the seed is selected from the field, it should be so stored as to insure thorough drying. There are many varieties of corn racks, and artificial drying is also resorted to. The process of drying is too well known to justify description here. The point is that no farmer this year can afford to fail to make field selection of seed corn for next year's planting. Of all the days in the year, no other presents opportunities for money-making equal to the day on which the farmer secures next year's seed of known high quality, full maturity, and well-adapted variety.

## Our Letter Box

### Look Before You Leap

DEAR EDITOR: In reading the Editor's Letter of the May 5th issue of FARM AND FIRESIDE, I wonder why so many men get married without any money, or even good positions. It seems to me that a young man should think twice before he takes upon himself the support of a family with only his hands to do it with.

I am a bachelor with my people dependent upon me to a considerable extent, and although I have done as well as the average young man who has stayed on the farm, I do not consider myself in a position that would warrant the undertaking of such an obligation, with the expense necessary to build and furnish a comfortable home. Marriage is a thing that too many people enter into too lightly.

It seems, as I look about me, not only at conditions just mentioned, but at the way farmers in many cases operate their farms and at the way many other things (about which I know less) are handled, a little strange how little real thought people seem to put on what they are doing. I know it is easy to drift along in a thoughtless, careless manner, but I believe it is wrong. We certainly were not placed here to loaf or carelessly lead those dependent upon us to destruction. It is our duty, not

only to do our best under all conditions, but to be always on the alert and trying to do better.

The most valuable asset a person can have is cheerfulness—the ability to make himself agreeable under any conditions. How many times we come in from work tired and feeling "as if we would like to take anyone's head off if they looked at us!" I believe nearly all of us have such experiences, but what a wonderful thing it is, and how much nobler, better, and more as our Master would have us, if we control our emotions at such times and can still be cheerful, remembering that the other fellow has just as much right in this world as we have.

M. C. HADLEY, New York.

### Sure Start for Shade Tree

DEAR EDITOR: During the winter is the best time to begin preparation for setting out shade trees. Two years ago a friend set out two ash trees about eight inches in diameter. He went about it in this manner: In December, before the ground froze hard (later during a thaw is all right), he dug a trench around the trees about three feet deep and at a radius from the trees of about three feet. Then at one spot enough dirt was thrown out to allow a sled or boat to be backed down to the bottom of the trench. Then they were left till late in February, when there was a thaw. The ball of earth about the tree roots, being still frozen, holds together and prevents injury to the delicate root feeders. The ground where the trees were to be set out was blasted, cracking and crumbling the subsoil into fine shape and allowing the roots of the trees to take hold quickly.

The trees were easily pushed over onto the boat and hauled to their respective holes. The mellow soil held water far better than the soil about the spade-dug holes possibly could. The summer following was extremely dry and hot, but it had no effect whatever on these trees. Besides insuring against drought, the dynamiting insures the success of setting out fairly large trees.

MRS. IVY J. NEFF, Indiana.

### Recalls Early Days

DEAR EDITOR: In reading in FARM AND FIRESIDE a renter's wife's experience on moving, I recalled my boyhood days in Kansas. The times before the advent of the iron horse my father was an early settler in Doniphan County. He kept the celebrated pony express stations. I used to hunt and fish on Wolf River and Independence Creek, and remember the bridge where the renter's family camped on the first night of their way to their new home.

I look back with longing to the time I herded cattle and chased wolves. At that time there were many skeletons of buffalo and deer on the prairies, but the yearly fires of the grass soon consumed them. In speaking of prairie fires, I will say that about the hottest time I ever had was fighting a fire that threatened to burn the barn on the ranch. I have seen the flames leap hundreds of feet when the winds were high, and they looked like rows of lamps in the streets of a city or columns of soldiers in battle—the sight at night was the grandest I ever saw.

On the bottom flats where the slough grass was four or five feet high I have seen the flames shoot upward 30 or 40 feet high where the columns of flames came together.

On my return from a year's visit in California I stopped off to visit my old home and relatives in Kansas after an absence of twenty-three years. Imagine my surprise to see beautiful homes and well-stocked farms where the Indian trail had been and the buffaloes once roamed.

ALFRED UNDERWOOD, New York.

### Rearing Children

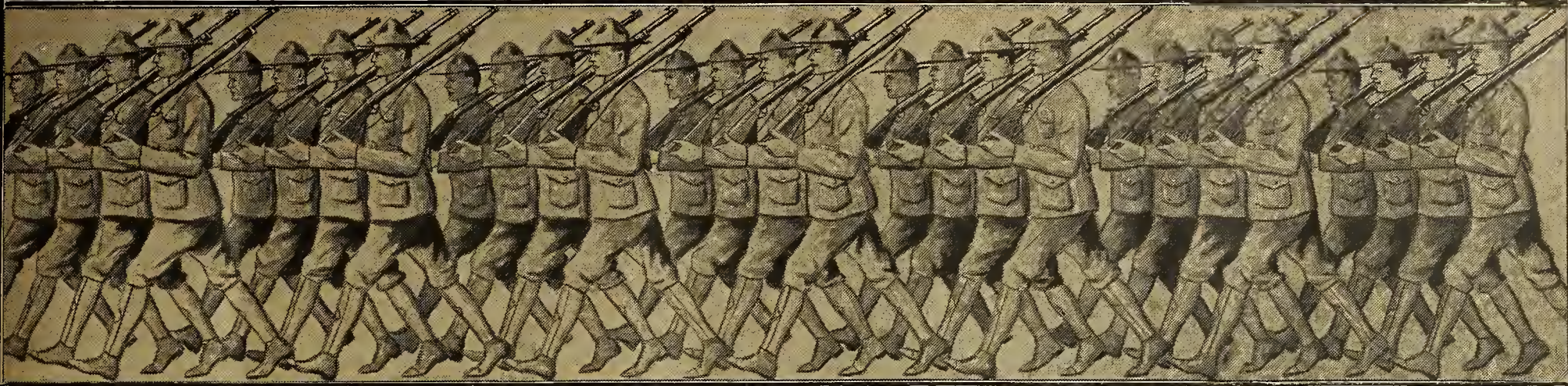
DEAR EDITOR: So much is said these days about child labor. Some people think that children should only play and study until they finish high school. You can watch the boys or girls that have nothing to do, and when they are through school they are educated nuisances. Some are not pretty enough for ornaments, so they are worthless. A girl reared never to wash a dish, sweep a floor, make a bed, or do any useful work will often turn up her nose at Mother, not remembering that her mother has slaved for her since her birth.

The boy or girl that has been made to shoulder a part of the parents' burdens, and have what some folks term a hard time, is the one that makes the real man or woman. Hard work in reason has never been a hindrance to the proper development of children. The Lincolns were poor, and yet the son, who split rails, grew up to be a wonderful man. Responsibilities mean development.

MRS. BELLE KIMBEL, Arkansas.



# Go to the Front with Our Soldier Boys!



## You Can Watch Them as They Advance

*By reading the newspapers and referring to*

### FARM AND FIRESIDE'S MILITARY MAP

—of—

### THE WESTERN FRONT

FROM the North and the South, the East and the West comes the tramp, tramp of marching troops. The silvery tones of the bugle calling reveille have replaced the shrill crow of the rooster. In thousands of FARM AND FIRESIDE homes there is a vacant chair at the breakfast table. Mother and Dad watch the newspapers anxiously for news from the training camp and from the front, far away in France.

And "somewhere" in that far-away land are many of our boys in khaki waiting to do their bit toward "making the world safe for democracy." Soon they will be going over by thousands. Your boy or your neighbor's boy among them, perhaps.

Realizing the tremendous interest of our FARM AND FIRESIDE folk in a really good map of the Franco-Belgian Battle Front, we commissioned one of the best map makers in America to design for us a special map showing all towns, big and little, that are now being mentioned or are likely to be mentioned in the newspaper dispatches, covering the battle lines from the English Channel to the Swiss border.

This map is now ready for delivery. It is a masterpiece of the engraver's art, being printed in three colors on a sheet 28x36 inches in size. The scale is ten miles to the inch, which permits showing clearly more than 7,000 cities, towns and villages. It covers all that territory lying between England and the Channel on the west, Antwerp, Belgium, on the north, Frankfort, Germany, on the East and Orleans, France, to the South. Within this area, some of the biggest events in history will take place.

THIS wonderful map shows in addition to all towns and villages a vast number of fortresses, fortified cities, naval arsenals, forts, redoubts, air-craft depots, wireless stations, railways, etc. Forests and woods are indicated in green, while the high tide of the German invasion of France, August, 1914, is indicated by a red line, which when compared with the present battle lines, also indicated in red, gives a clear idea of the ground regained by the Allies.

A map such as we offer you would lose a great part of its value without a complete and concise index. The names appearing in the news dispatches are usually of small places, which do not appear on ordinary maps. These names are unfamiliar to our American tongues. This adds to the difficulty of locating. We have included with our map an index containing over 7,000 names with keys to their location on the map.

If you will bear in mind that the average war map contains less than 700 names, you will get an idea of the completeness of this new map we offer you. With it you can quickly find practically every village or hamlet mentioned in the news dispatches from the Western Front.

The map is in folder form with flexible board covers. The index precedes the map and is in regular book form. The first thirty pages are occupied by the index and keys and a pronunciation guide. You can easily carry the folder in your pocket, thus having it always handy when needed. Remember, this map is new—it is accurate—it is absolutely the best map of the Western Front yet prepared.

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## Crops and Soils

### Farm Efficiency

By R. E. Rogers

I WATCHED a farmer some time ago while he was feeding the horses. There were 16 head in two parallel rows of stalls. The oats for the feeding were at one end of the stable in a vacant stall. The stalls headed to the outside of the barn.

The man who did this feeding carried each horse's basin of oats from that vacant stall to the feed trough of each horse. With sixteen of the animals that meant quite a few trips. It meant a good many feet of traveling because the barn was about 40 feet long.

Wouldn't it have been pretty easy to have carried a bushel of those oats along to each stall and saved all the walking, or maybe placed the barrel on a wheelbarrow? With a lot of chores on hand a few such unnecessary trips as this would make a difference of a good many minutes in the day's work.

Can you think of any unnecessary steps that you take around your barn when the chores are being done? Maybe it will pay to look a while.

### Leaves as Fertilizer

DEAD leaves, contrary to common belief, have practically no fertilizing value. Most of the elements of plant food pass into the body of the tree on the approach of winter. A ton of the best quality of autumn leaves contains six pounds of potash, less than three pounds of phosphoric acid, and 10 or 15 pounds of nitrogen.

Leaves are of practical value when in the proper state of decomposition. Leaf mold is used in all well-equipped florist establishments for mixing with sand and garden loam to make a good potting soil. Soil made in this manner is especially valuable for ferns, palms, and other woodland and tropical plants.

Composting leaves, manure, and rubbish is not uncommon. A low place is selected for the compost, which is allowed to stand for two years. It will be found advantageous to wet the pile during the dry season. The leaves keep the soil loose and prevent its packing together into a hard mass.

### Plowing in the Fall

AS HEAVY types of soil are in poor condition in some States, plow now or sometime before the spring. The summer rains have left the soil difficult to work. The action of frost on rough plowed or listed ground will do more than any other one thing toward restoring good tilth.

A soil to be productive must be in good tilth. Good tilth is hard to define, but we all know when a soil works just right, when it turns over on the moldboard in a mellow, loamy condition, and when it cultivates with ease.

This condition of the soil is the result of the arrangement of the soil particles. A heavy soil is made up of millions of small particles many of which are extremely small. When small particles are bound together by organic matter or

weak cements into small lumps, the soil is said to be flocculated and in good tilth. When the small particles become separated from one another so that they are no longer flocculated, the soil works hard and is in poor tilth.

After a heavy beating rain the surface of the soil crusts. This is because the soil is deflocculated by the beating of the raindrops. If the soil is cultivated when in the right moisture condition following a rain of this kind, the soil will be flocculated again and good tilth procured, but when a number of heavy rains fall, as during the last summer, and when the soil remains wet and logged for many days in succession, the entire surface soil becomes deflocculated and the soil is left in poor tilth. Such a soil plows hard and turns up cloddy.

If the plowing can be done in the fall or early winter, and the ground left rough, the freezing and thawing of the water in the pore spaces of the soil will cause the clods to crumble and the soil particles to become flocculated. Thus good tilth will be produced.

There is scarcely a winter in which there is not some time when the ground is in good condition to plow. Advantage should be taken of these periods to plow ground that is to be planted to spring crops. Corn, kafir, sorghum, or oats can be planted to advantage on winter-plowed ground.

Ground that has been fall or winter plowed for corn or kafir warms up faster, dries more rapidly, and can be worked several days earlier than unplowed ground.

### The Fall Clean-up

THE general cleaning up of the farm premises in the fall is advisable when they have been neglected during the busy summer season.

It is to a person's interest to keep his premises clean and orderly at all times. A farm cluttered up with useless, worn-out implements or rubbish left from repairing fences and buildings will spoil the appearance of an otherwise attractive home.

If the farm and premises are put into good shape in the fall, there is usually less for a person to do in the spring. The machinery should be put away in good repair, so that it will be ready for use when needed. Things that are not needed during the winter can be packed away in a convenient place.

### The Seed Corn

IF YOU have not already done so, select your seed corn now. Corn in open cribs is susceptible to damage because of the moist condition of grain kept in such places, and because of low temperatures.

By selecting seed now, time is allowed for thorough germination tests before seeding time in the spring. Such tests give the opportunity of discarding ears which do not germinate, or those which give unsatisfactory tests. Seed selection can now be done more economically than it can in the spring.

In the selection of seed, maturity is an important consideration. The ear should have been matured at the end of the growing season and yet not have been matured ahead of time, for in that case it will not have made full use of the available food and water supply. Immature corn should not be selected in any case, for if it germinates—which is improbable—immature corn may be produced. Such corn is not desirable, because it is more difficult to store, is less nutritious as feed, and yields less money returns.

Another point to be considered is the size of the ear. Small ears will likely produce small yields, while large ears will tend to produce big yields.

## Cutting the Teuton Roll Call

[CONTINUED FROM PAGE 3]

To all intents and purposes, then, the British casualties were from a year to two years fewer than those of the Germans or the French, and to this extent British reserves are still superior. England has, first and last, with her colonies, put in France or marked for service in France something around four millions of men. She has lost permanently not less than a million. She has available not less than three millions, and of this huge total I do not believe many more than a million and a half are actually engaged. At all events, England should have a million free reserves to repair the wastage of the campaign of 1918. This would mean that the Allies would have on the western front alone a reserve man power twice as much at least as the Germans. It is probably greater, and if the submarine situation can be faced and surmounted during next year the Allies will then have the huge reserves of the United States, which will then be available for the campaign of 1919, and should not amount to less than a million to a million and a half of troops, trained and equipped.

Now, as to Austria and Italy the situ-

Austria even if Russia and Rumania are both eliminated from the conflict.

British man power will suffer much more than the French next year, but even so it will not suffer in the aggregate as heavily as the French. We in America will begin to make our casualty lists. Suppose, for example, that in the campaign of 1918 the British lose 1,250,000, the French lose 650,000, and we lose 100,000. This is a casualty list of two millions. A similar German loss would wipe out all Germany's reserves and reduce her effective man power by something like a million more. The losses in all cases include temporary and permanent. Such a loss would mean of a necessity the evacuation of France and western Belgium. But it would mean a much greater permanent significance, because it would mean that while three great nations apportioned the casualties among themselves, German manhood would have to bear the whole strain, and the boys of Germany would be sacrificed as was the youth of the Confederacy in the Civil War.

Germany has reached the point in her casualty lists where she must sacrifice her youth. France has reached the same point, but now America and England are in a position to take much of the burden off France.

## Official French Figures on German Man Power and Losses

GRAND HEADQUARTERS OF THE FRENCH ARMY IN FRANCE

The Associated Press is able to give approximately the figures representing the man power of Germany in the war at the present time, together with the casualties, as follows:

Fixed formations on the various fronts, employed on lines of communication and stationed in the interior, 5,500,000.

Divisions undergoing formation and men in depots, 600,000.

Losses in killed, permanently disabled, and prisoners, 4,000,000.

Wounded, under treatment in hospitals, 500,000.

Total, 10,600,000.

These figures account for all the men called out up to the present for service, as follows:

Trained men, mobilized immediately on the outbreak of the war, 4,500,000.

Untrained Ersatz (compensatory) reservists called out, August, 1914, to February, 1915, 800,000.

Class of 1914 recruits, called out November, 1914, to January, 1915, 450,000.

First ban of untrained Landsturm called out at the beginning of 1915, 1,100,000.

Class of 1915, called out May-July, 1915, 450,000.

Remainder of untrained Landsturm called out the same month, 150,000.

Class of 1916, called out September-November, 1915, 450,000.

Contingent of hitherto exempted men called out in October, 1915, 300,000.

Second contingent exempted men called out early in 1916, 200,000.

Second ban of Landsturm, called early in 1916, 450,000.

Class of 1917, called out March-November, 1916, 450,000.

Third contingent of exempted men, called late in 1916, 300,000.

Class of 1918, called out November, 1916, to March, 1917, 450,000.

Class of 1919, called out in part in 1917, 300,000.

Additional exempted men, 1917, 150,000.

Total, 11,500,000.

The discrepancy in the figures is accounted for by the omission of several units. The total mobilizable male resources of Germany since the beginning of hostilities, including the yearly classes of recruits up to 1920, number about 14,000,000. Those called up number 10,600,000. The remainder are accounted for as follows: The remaining portion of the class of 1919 awaiting call, 150,000; class of 1920 still uncalled, 450,000; men employed as indispensable in industries and administration, 500,000; men abroad unable to reach Germany, 200,000; men entirely exempted, owing to physical disability, 2,100,000.

Recruits of the 1920 class cannot be called legally until they attain their seventeenth birthday.

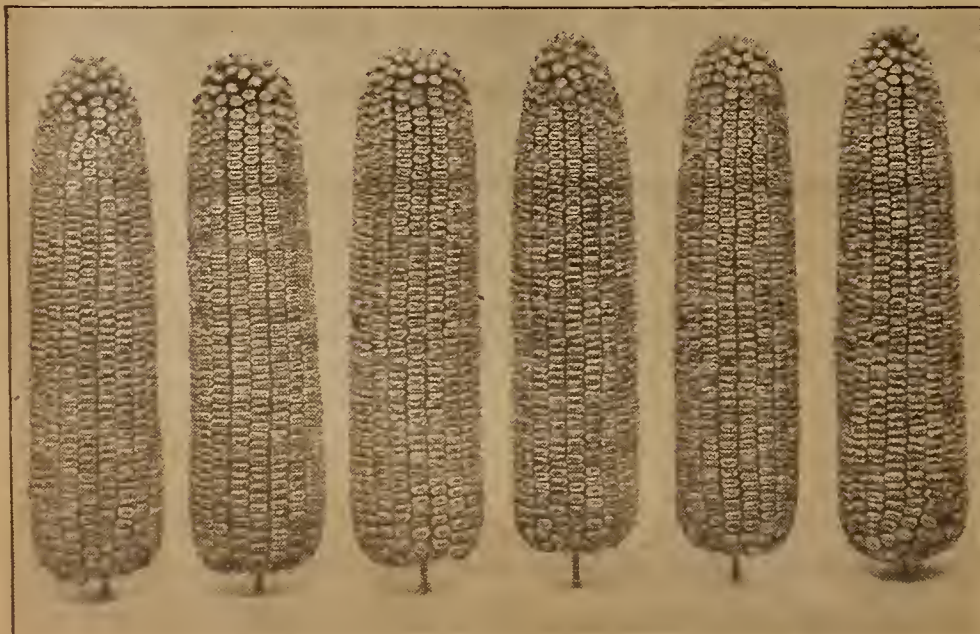
ation is less clear. If Austrian losses have been in the ratio of French and German losses in the first three years of the war, Austria would have lost 2,975,000 men permanently and something like 425,000 men temporarily—that is, 3,400,000 out of a mobilizable strength of 8,600,000 men. But Austria has lost in prisoners out of all proportion—at least a million more prisoners than France or Germany. Therefore, the permanent loss of Austria cannot be less than 4,400,000, and the temporary loss in men in hospital who will return, at least 400,000. Four million eight hundred thousand deducted from a man power of 8,500,000 would leave 3,700,000, of whom 400,000 would not be available until later.

And as the Austrian-Italian campaign is likely to continue until late fall, there will be a further reduction of Austrian man power. It is very unlikely that Austria will have available many more troops than are necessary to man her lines at the beginning of the campaign of 1918, unless Russia should be eliminated from the war. But even if Russia is eliminated from the war, Austria can hardly have more than three and a half million troops, and Italy, which had a man power of about five millions at the beginning of the war and can hardly have lost more than one million in her three years of fighting, has not less than four millions, and probably nearer five million men, available for the campaign of 1918—that is, she will have at least a million larger army than the total man power of Austria next year, and can therefore preserve a superiority of numbers against

It ought to be clear, from this hasty review of the statistics of the casualties, why outside of the military considerations the German statesmen now desire peace. Another year of terrific losses will compel the shortening of the line, even if, because of the Russian collapse, it does not bring a decision. Shortening the line means the surrender of northern France and Belgium, which are hostages Germany now holds to ransom from France and from Britain. But it also means the sacrifice of the youth of sixteen, seventeen, and eighteen and the postponement of the recovery of Germany after the war, just as the recovery of the South after the Civil War was almost indefinitely postponed by the approximate annihilation of manhood and the youth of the Confederate States.

The war has now reduced itself to the very simple question whether German man power will last until the German submarine has compelled the Allies to make peace, or to put it a little differently, as Sir William Robertson, the British chief of staff, said a few months ago: "The question is now whether the allied armies can win the war before the allied navies lose it."

If the war is continued merely as a military operation for two years, the defeat of Germany and the destruction of the man power of Germany almost as completely as it was destroyed in the Thirty Years' War are assured. The sole German hope is in the submarine. The collapse of Russia has come too late to save Germany on land if her enemies continue the war and the land operations are not interrupted by the submarine campaign.



Maturity and the size of the ears are two important things to be considered in the selection of seed corn for next year's crops





# Garden—Orchard

## Tuber, Root—Which is Which?

By L. A. Kile

WHAT'S in a name? No doubt sweet potatoes would taste just as sweet whether spoken of as "tubers" or as "roots." But why not have the names right? Even prominent writers frequently confuse the terms when speaking of Irish potatoes or of sweets. But confusing as these terms seem to be, botanists say fleshy roots are distinctly different from tubers. Let us note some of the differences and we can readily understand why the sweet potato is an enlarged fleshy root, while the Irish potato is a tuber, or enlarged stem.

The tuber is a form of subterranean stem, the end being very much enlarged as a depository of food. That the tuber is a stem structure is evident from the fact that it bears very much reduced leaves, in the axils of which are buds or "eyes." Sprouted potatoes are evidence that the eyes have developed into branches, also showing the shoot character of the tuber plainly. One of the most obvious contrasts, in external appearances, between the stem and the root is that the latter bears no leaves or scales.

Roots from seeds, with all subsequent branches, comprise the primary root. This primary root takes various shapes. In many cases it develops a single vertically descending axis called the taproot, which is conspicuously thickened for food storage in some vegetables. Again this taproot may be entirely absent. Branches of this primary root becoming thickened form clusters or thickened roots such as the sweet potato.

The next time you refer to either of these vegetables, show that you know the difference between a stem and a root.

## Yield Quart to a Plant

By J. W. Griffin

AFTER trying several systems of planting I have now settled on the wide-matted row as the one best system of planting the strawberry for the home garden. Rows four feet apart, with plants set 20 inches apart in the row, will, when planted with care early in the season, make a matted row like those shown in the picture, which was taken in September.

When giving my strawberry-raising experience in FARM AND FIRESIDE a few years ago, readers severely criticized a statement that I had gathered an average of a quart of marketable berries from each plant all over the patch of about a quarter of an acre.

In the wide-matted row we get an average of three plants per foot of row, or about 11,000 plants per acre. On our plot of about one-eighth acre of Nick Ohmers variety we expect to double the yield I have mentioned. The ground was heavily manured for a crop of potatoes, and after the potatoes were dug it was seeded to rye, which was heavily top-dressed with barnyard manure during the winter. The rye was turned under early in the spring and the ground prepared for the strawberry



A quart to a plant or over is the aim of the owner of this intensive strawberry plot. The beauty of the place is an inspiration

plants, which were put out in April. The patch was cultivated often, and during the growing season we applied nitrate of soda at the rate of 200 pounds to the acre. Early in the winter we put on a mulch of fresh stable manure, at which time there were great bunches of rank green stems, with multitudes of blossom buds hidden away in the crowns of the plants.

Early next spring, about the time plant growth has well started, we will pull some of the mulch away from the plants to the middles. And just before blossoming time we will give another application of nitrate of soda—about 40 pounds to the plot of one-eighth acre. As the plants stand about 10 inches apart each way, the ground will be literally covered with berries.

Strawberries are gross feeders and will produce in proportion to the way they are fed. Heavy fertilizing and intensive culture will give you large yields, while thin soil and scant culture will give light yields.

When we set a new plot 20 inches apart in the rows, the runners are kept off the vines until early in August, after that they are permitted to grow until there are 12 new plants established around each parent plant. Then all runners are kept off. The plants are cultivated every four or five days, as the runners grow very fast and should be cut off at each cultivation.

## A Garden Manure Pit

By B. F. W. Thorpe

SOME days ago I saw a real garden help and a sanitary convenience combined in the garden of a progressive town-lot gardener.

A pit about eight feet square and three feet deep had been lined with concrete and made water-proof for the storage of compost for his garden, flowers, and shrubbery. In this pit was placed all refuse from the kitchen which was not suitable for chicken feed, manure from the poultry house and other sources, weeds and any organic matter that he and his neighbors wished to get rid of.

This compost was kept covered with a layer of garden soil to absorb odors and to improve the condition of the compost material. The slops and soapsuds from the washtubs, etc., were wheeled to the pit in a barrel barrow. This moisture helped the compost material to decay quickly.

The top of the pit is kept covered in summer with fly-proof frames of rust-proof wire screens. The gardener making use of this compost is satisfied he gets, at a low estimate, \$25 worth more income from his garden each year than he could expect without his compost-storage facility.

## Cost Returned Fourfold

By Amos L. Gridley

ANOTHER convincing showing for a good returns from spraying trees has just come to hand from a Nebraska fruit grower, J. Ralph Cooper, who has completed three years of spraying work under the direction of his state experiment station. During the three years' period the unsprayed trees matured only 13.4 per cent of marketable fruit. This left 86.6 per cent of the fruit that was fit only for vinegar, and gave an annual average income of only \$1.67 for the unsprayed trees. In contrast, the fruit trees that were sprayed four times each season for the control of fungous diseases and insect pests, at a cost of 24 cents per tree for labor and spray material, returned an annual average income of \$7.38 per tree. This means an additional profit of over \$1,000 from an orchard of only 200 trees.



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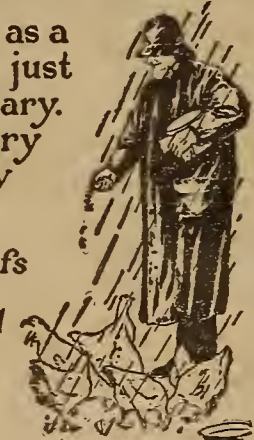
Musterole comes in 30c and 60c jars—hospital size \$2.50 at all druggists. The Musterole Co., Cleveland, Ohio



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# Investing in Knowledge

## How I Learned that Schooling Pays Financially

By GEORGE MARSHALL

I HAD quite an argument one day last week with my nearest neighbor. Now, I'll admit, in the beginning, that arguing is about as useless a way to spend one's time as anything I know of. I've made it a cast-iron rule never to argue religion or politics, no matter what the provocation. But sometimes I can't resist the temptation on other subjects. My wife says I would have made a better lawyer than farmer.

My neighbor rolled me, right to start with. He's one of those fellows who knows everything; doesn't have to prove it—just admits it. So when he leaned over the division fence and casually remarked that now as the schools were about to open he hoped none of the boys of our neighborhood would be "fools enough" to attend the town schools or go away to the agricultural college, that the old one-room style of schooling was good enough for him and he guessed it was good enough for his boy, right away I knew I was in for an argument; I could feel the chip slipping off my shoulder. We exchanged quite a few words, and I drove home that night wishing I had had more facts to back up my personal convictions.

Then, what do you suppose?

The very next day I got the facts I was wanting. You can believe me or not, but it didn't take me long to crank up my little old four-cylinder and drive over there.

Some days the carrier almost fills the mail box—not letters particularly, but circulars and catalogues. I've got in the habit of reading most of the stuff, figuring that if some firm thought it was worth two or five cents of their money to send it to me it might be worth two or five minutes of my time to see what was in it. I tossed the big things aside that morning and picked first on a little four-page leaflet from the State Agricultural College. There it was, as plain as day, just what I wanted.

The college took a "survey" of the average annual incomes (less living expenses) of 825 of the best farmers in the State. My neighbor wasn't in it, I know, for he got only 35 bushels of oats to the acre this year, while I got 75, and one farmer in our township threshed out 100. Now, out of these 825 good farmers, the men who had had just a common-school education—the kind you get in the old white schoolhouse of one room, with a hitching post in front and a few dilapidated outhouses in the rear—made an average of \$1,630 a year. Then the farmers who didn't stop with the country school, but went ahead and took a short course in agriculture, made an average of \$1,780 a year.

### School Pays \$24,180

But that wasn't all. The farmers who went still further and took the regular college course in agriculture—the fellows my neighbor poked fun at, calling them "high-brows" and "book farmers"—made an average of \$2,436 a year. In other words, a college education was worth just \$806 a year to those farmers, for they earned that much more than the farmers who had stopped with the common school.

Now, supposing a man farms thirty years, his college education makes him earn just \$24,180 more than he would have earned otherwise. With \$24,180 I can do the following things: I can build a fine, modern, up-to-date farmhouse—three bedrooms, screened-in porch, built-in garage, full basement, two sets of plumbing fixtures, and all the town improvements—for \$6,000. I can buy a new six-cylinder automobile for \$1,250. I can install a vacuum cleaning system, an electric washer, and a half-dozen other labor-saving devices for the goodwife for \$300. I can buy 100 well-selected volumes of standard literature, something for every member of the family, for \$200. I can send my youngest boy and my youngest girl to college, four years each, for \$4,000, and they will not have to do a tap of work to help pay their way through, either, though I think both would prefer to do so in order to be partway self-supporting.

Then, after doing all these things, which my neighbor may think are extravagant and unjustified, I would have \$12,430 left with which to buy new land or stock, or to invest in good, sound five or six per cent securities. Supposing I did the latter, I would have an annual income of between \$620 and \$750, enough to keep me quite comfortably on the farm, without my doing any more work at all. Looks to me as though the college education was a well-paying

financial investment for the farmer, after all.

I felt pretty good when I figured this all out, and I had my neighbor groggy on his legs, almost ready for the knock-out, but I wasn't completely satisfied myself. I drove to town the next day and called on the principal of the high school, where my oldest boy, Jim, had put in four good years before he went away to agricultural college. Jim wasn't a more-than-average pupil—finished seventh in a class of twenty. I knew his education was paying him good returns, and paying me too; but I hadn't kept books accurately, and I thought perhaps the principal might give me some more ammunition to fire at the neighbor. He did.

As luck would have it, that school principal had been collecting figures on the earning capacity of the boys who had been in the sixth and seventh grades of the public schools (it's a town of 15,000 in a Midwestern State, which leads in oats, corn, hogs, horses, and so on, and is typically agricultural; I'll give the name to anyone who wants to know it) the year that my boy Jim had graduated from the high school, 1909, and the following year, 1910. They weren't all town boys, either; there was a good smattering of country boys among the 138 who supplied the records.

### Worth \$10 a Day

I'm not going to give all the figures that principal gave me, they might bore you, though I found them intensely interesting. I'm just going to "hit the high places" as the boys say.

The most important thing that principal found out was that the boys—town and country, both—who dropped out of school in the seventh grade earned, on an average, \$225 a year each, less than the boys who finished three years of high school. In the course of forty years (I figured only thirty for the farm, but that's fair, as we farmers can usually retire much sooner than a town man) that means that a man with three years of high-school education earns \$9,000 more than the boy who quits in the seventh grade.

Moreover, that principal found out that even if a boy quits the farm and goes to live in the town all his life, he earns enough more in forty years, as an educated laborer, than if he had remained uneducated, to pay him \$10 a day for every day he spent in school, from the kindergarten clear through to the fourth year of high school. I never drove my car 25 miles an hour before in all my life until I started back to tell these things to my neighbor. The engine sure did hum.

But that wasn't all. I wish I could give you all the figures, but I haven't time. Anyhow, here are a few: The boys who quit school in the seventh grade earned, on an average, \$28.88 a month the first year they were at work. Those who quit in the eighth grade earned \$40.01 a month the first year at work, making the additional school year worth \$11.13 a month, or \$133.56 a year, to them. Those who quit in the first and second years of high school earned, on an average, \$42.66 a month, while those who took three years of high school earned \$49 a month the first year, or \$20.12 a month more than the boys who quit in the seventh grade.

If you can get this all straight in your mind you're ready for this, and I'm about through: The boys who quit in the seventh grade are now earning \$41.38 a month, the sixth year they have been at work, which is \$7.62 a month less than the third-year high-school boy earned his first year out of school.

### Corn Yields Go Up

While I was in his office the principal asked me about Jim, and I told him how proud I was of the boy. I figured out his earning capacity the best I could, and when I stopped at the office again, the next day, I got some more facts about the boys who graduated from the high school the year Jim did. Their average earnings the first year they worked was \$50 a month, which is \$8.62 more than the average of the boys who quit in the seventh grade, after they had been at work six years, and \$8 a month more than the average earnings of the boys who quit in the sixth grade, after they had been at work seven years. I guess I'd better quit with these figures before you become confused.

I know how it has been in my own family. Jim was ambitious to go to the agricultural college, and I was perfectly

willing; but I wanted to try him out, so for a time I pretended to be opposed to it. My idea was to make him earn his way. He did it, too—paying for his board by waiting on table at the mess hall and for his room by taking care of the furnace in the private house where he lived, and doing chores. The result was that his education really cost an average of \$250 a year for four years, or \$1,000 altogether. Let me show you some of the results in dollars and cents.

A part of our farm land was extremely low, subject to overflow every spring; some of it was under water practically all the year around. I had it drained, and found the investment a good one. But I would never have increased the yield as it has been increased if it had not been for Jim. He took a sample of the soil to college with him one year and tested it. He found it to be lacking in potash. I had been opposed to commercial fertilizers all my life, but Jim was so in earnest about it that I let him take a try.

That was last year. The year before my corn ran 35 bushels to the acre; it sold for 50 cents, a total of \$17.50 to the acre. Jim applied muriate of potash (I'll admit I had never heard of it until he told me about it and read me a lot out of one of his textbooks) just before the last cultivation of the ground before planting, and that year we got 65 bushels of corn off the very fields which had run 35 bushels the year before. Part of that corn we sold last fall for 80 cents a bushel; part of it we carried over until this spring and sold for \$2 a bushel. I guess it would be fair to say that we averaged \$1.25 a bushel. The 30-bushel increase meant \$37.50 an acre. The fertilizer cost us \$6.39 an acre. Here was a clear gain; in one year, of \$31.11 an acre, or \$1,866.60 on the 60 acres.

But that wasn't the only thing Jim did. He was chock-full of enthusiasm over cow-testing, and it wasn't long before he had me going too. So we took to figuring pounds of milk and butterfat, and entering them up on record sheets.

Would you believe it, my herd of milking cows ran from "below zero" to "100 in the shade," in the matter of dollars and cents profits! It wasn't long until we had a good hunch as to which cows were not paying their board, and the work of elimination began. When it comes to the same amount of feed—measured by value—producing \$119.54 worth of milk and butterfat in one cow, \$92.19 in a second, and only \$7.07 in a third, it is high time to take steps to bring up the herd average and to get rid of the "poor relatives" who are simply sponging off the others. I might have been induced to join a testing association whether Jim had ever gone away to college or not, but he made me do it sooner than I would have done otherwise.

### Scoffer is Convinced

I guess, what with increasing the corn yield, making me plant better seed and have seed plots, and all that sort of thing, going in for cow-testing, and so on, Jim has increased the returns of the farm from \$1,000 to \$1,500, perhaps more, a year—which simply means that he's worth all in one year, as a good business investment to me, that his college education cost in four years.

Of course, the money value is only one of the benefits of Jim's college education. The contact with his fellows developed his character, corrected many of his faults, and softened down a lot of little mannerisms and characteristics which might later have become irritating to his friends. Then, he brought to his mother and me news from the world of youth, and, after all, we older people need nothing so much as to keep in touch with the thoughts and doings of young people.

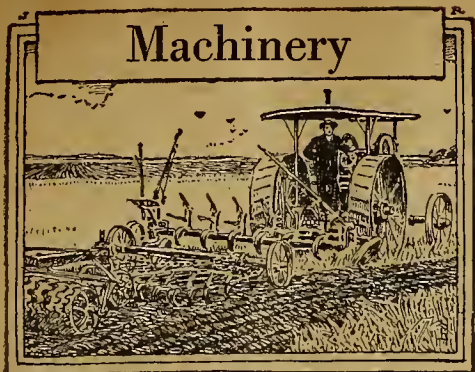
I don't know just how things are going to turn out around here, but last night my arguing neighbor stopped me as I was whizzing by his place. I thought sure I was in for another argument, but the minute I saw him, close up, I knew better. He was sort of "red around the gills" and looked a bit sheepish. We talked about the weather for a few minutes and how the oats were threshing out, and so on. I was ready to go and had throttled the engine down so it wouldn't make so much noise, drowning out our voices, when he cleared his throat and said:

"Oh, by the way, it don't matter much, but what did you say it cost you to put Jim through college?"

I don't know, you never can tell—perhaps he may and perhaps he may not, but I've a sort of a hunch that he will.



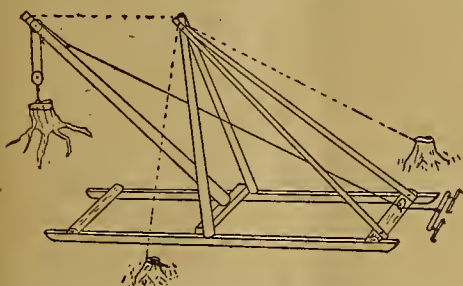
## Machinery



### Home-Made Stump Piler

By Alfred Mathewson

UP IN the north woods of Wisconsin two brothers, Frank and Charlie Conrath, began clearing some logged-off land. With dynamite and pullers the stumps could be got out of the ground, but what then to do with them was the question. The big chunks and roots might be burned if they could be piled. Necessity became the mother of invention and a home-made piler resulted.



Plan of piler, showing how it is anchored to stumps with guy cables

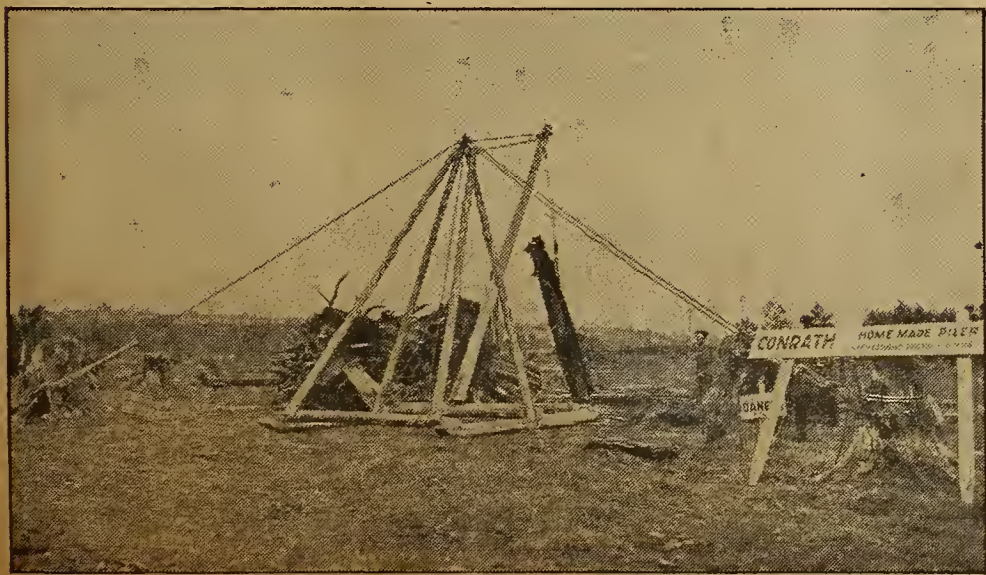
The diagram and list of necessary materials shown will enable anyone to build this piler at a cost of from \$25 to \$30. The construction shown is clear, except the detail showing how the boom is pivoted on the crossbeam. At the center of the crossbeam, an iron plate  $\frac{1}{4}$  x 4 x 12 inches is fitted with a  $1\frac{1}{4}$ -inch hole drilled in the center. Just below the holes in the iron a 2-inch hole is bored in the crossbeam.

The end of the boom is cut at an angle to accommodate raising and lowering the boom. Around this end is then strapped a  $\frac{1}{4}$  x 4 x 24-inch strap of iron drilled in the center with  $1\frac{1}{8}$ -inch hole and fitted with a 1x6-inch bolt. The head of the bolt is between the end of the boom and the strap; the shank extends through the hole.

The boom is then set on the crossbeam, the bolt fitting in the iron plate so that the boom will swing around to the right or left.

A trip can be made by any blacksmith. When the stump is ready to be dropped the driver releases the trip; the cable runs back, lowering the stump exactly where the boom tender desires. Following is a list of material needed:

- 2 skids, 8x8, 20 ft. long.
- 1 crossbeam where boom sets on, 7x8, 9 ft. long.
- 2 crossbeams for ends of skids, 5x5, 14 ft. long.
- 2 standards for A frame, 5x5, 14 ft. long.
- 2 brace poles for A frame, 4x4, 18 ft. long.
- 1 pole for swinging boom, 7x7, 22 ft. long.
- 110 ft.  $\frac{3}{8}$ -in. steel cable.
- 40 ft.  $\frac{1}{2}$ -in. steel cable for holding boom.
- 2 25-ft. pieces  $\frac{1}{2}$ -in. guy cable.
- 1 shive fastened in end of boom,  $\frac{3}{4}$  x 6.
- 2 steel blocks for piling cable.
- 2 double wooden pulleys for  $\frac{5}{8}$ -in. rope.
- 2 single wooden pulleys for  $\frac{5}{8}$ -in. rope.
- 2 strips of iron  $\frac{1}{2}$  x 1 $\frac{1}{2}$ , 18 in. long, to fasten A frame to skids.
- 1 plate of iron  $\frac{1}{4}$  x 4 in., 12 in. long, for bottom of boom.
- 1 piece of iron  $\frac{1}{2}$  x 2 $\frac{1}{2}$ , 24 in. long, to fasten bottom of boom to crossbeam.
- 1 bolt for bottom of boom to swing on, 1x6 in.
- 4 bolts  $\frac{5}{8}$  x 12 in.
- 2 bolts  $\frac{5}{8}$  x 14 in.
- 2 bolts  $\frac{5}{8}$  x 8 in.
- 4 bolts  $\frac{5}{8}$  x 8 in.
- 1 bolt 1x9 in.
- 1 bolt  $\frac{3}{4}$  x 20 in., threaded on both ends.



This practical and inexpensive hoisting device piles stumps, logs, or most any bulky article too heavy to be lifted by hand

While it is possible to pile large stumps with this piler, it is not good practice. Destroy them with fire.

### Grinding Valves

By Wm. E. Curley

THE exhaust valve of an engine should be carefully watched. When it starts to pit it deteriorates rapidly. A little grinding done frequently keeps the engine compression much better than the long grinding which is necessitated when the valve becomes badly pitted.

As the cool, unexploded gas, and not the scorching exhaust, passes through the intake valve the necessity of grinding the intake valve practically never arises.

Exhaust valves are of hard steel, and grinding them is usually a tiresome job. While lightly twirling the valve back and forth in its seat with a hand screw driver imparts a nice final polish to both valve and seat, the actual grinding is slow.

Whenever I have valves to grind I use a brace and screw-driver bit to turn the valve. I use a coarse grinding paste at first, and put my weight on the brace. Four or five turns of the brace are taken before it is necessary to use more grinding compound.

It is astonishing how quickly a badly pitted valve will grind down under this treatment. A final polish with fine paste and less pressure completes the job. It is important to clean the cylinder thoroughly after valve-grinding, to prevent the grinding compound from working down between cylinder wall and piston and causing wear.

It should be borne in mind that grinding a valve has the effect of lengthening the valve stem, hence, in order to keep the proper adjustment, it is usually necessary to shorten the valve lift a trifle after grinding the valve.

### Move Cultivator Backwards

By T. H. Linthicum



I ALWAYS drag my cultivators to and from the field backwards. This prevents gouging up the road and knocking the points off the teeth. I simply hook a strong bridle rein or short piece of rope to the rear standard, as illustrated, and hitch the horse to it.

I then walk along on the left side and hold the handle of the implement to steady it. This way it glides along nicely without hooking on to anything.

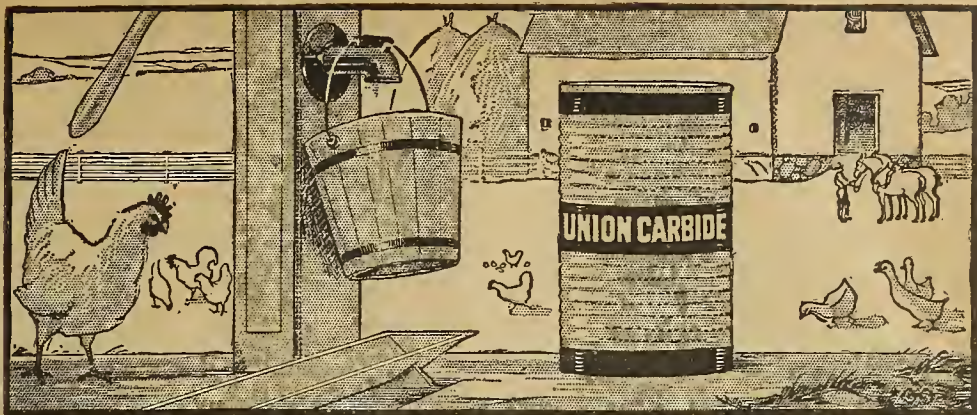
### Tandem Operations

A DIFFICULTY often experienced in the fall seeding of wheat is the almost rock-like condition of the soil, owing to drought, just at the time one should be getting his field in readiness for the seed.

Under such conditions the use of a tractor will produce the desired results when it would be all but impossible to prepare a seed bed by operating farm implements with horse power.

For bringing the soil into seeding condition the repeated use after plowing of both the roller and the toothed harrow is good practice. These can be operated tandem-fashion and the effect of both implements secured at the same time.

The soil for fall seeding of wheat should be finely broken and pulverized. It is essential that the lower portion of the seed bed be well compacted, since a loose, open condition will be more likely to result in winter-killing. The roller serves to compact the soil and crush the lumps, while the harrow will leave a surface mulch ready for the seeding drill.



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Kohl Building, San Francisco



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## Live Stock

### Early Spring Lamb

By Albert L. Roat

EARLY spring lamb, as I understand it, is an animal finished in January and February. It must be young and tender and toothsome. I breed early lambs from the meat grades. I prefer Shropshire and Hampshire ewes of good conformation and a Southdown ram. This cross has always produced a lamb of quality for me that commands a top price.

I find a market for early spring lambs at the large hotels, exclusive clubs, and restaurants in the city, and the price for such animals dressed is \$10 to \$12.

Raising early lambs is a profitable business on any Eastern farm. The lambs are finished and marketed early and the ewes are sheared during April. At that season the fleece is in first-class condition and will command a good price in the wool market. The wool helps to pay for the cost of feed. And the manure is a rich fertilizer that is worth all the straw and roughage used to make it.

I consider it costs me about two cents a day to feed a sheep, because I raise all the rations and roughage on the farm. Under my system of raising sheep, I buy the ewes at the stockyard in July, and the same animals are conditioned for market and sold the following March or April.

The cost of maintenance for about 275 days is \$6. This year the wool averaged \$2 an animal. The manure is a profit. Each lamb brought \$10. The fattened ewes always average a profit of \$1.50 a head. Therefore I get a profit of \$7 a ewe for the 275 days on the farm, and the manure.

This year I raised 31 lambs from a flock of 35 Hampshire ewes. Eleven ewe lambs brought \$20 each for breeders. Twenty buck lambs were marketed in prime condition in February and sold at \$220.

Indications point to high prices for early lambs this coming spring, and ewe sheep will cost considerably more than in 1916 and 1917, but I believe the price of hothouse lambs will sell in proportion to the cost of production.

My method of handling sheep should appeal to the busy farmer who has limited pasture land and little waste ground. It gives an incentive to raise sheep because the system has many features that must appeal to the business farmer. The net profit is great on the capital invested, and the work of caring for the sheep comes after the outside labor is over and the sheep are sold before the next year's work begins. The price of lamb and mutton is high, and will remain above the old figures for a long time, I am sure. The public is getting to prefer lamb to mutton, and it is up to us farmers to encourage their appetite and supply the demand.

### Good Action in Draft Horses

SIZE and power are of little value if the draft horse has not enough action to handle his big weight in an efficient manner.

The action of the draft horse should

be bold, clean, and somewhat stylish.

The feet should be carried forward and back in a straight line without padding, winging, or other irregularities of gait. It is necessary that the feet move straight and smooth in order to get the best and greatest stride with the least energy.

Knee action in a draft horse is not important. A long stride which covers considerable ground is much more important than high knee action. Ability to cover ground is what is wanted in the draft horse.

The walk is the important gait. It should be true and snappy and have a good length of stride. The action of all four legs should be strong, and the movements of the knees and hocks free, without indication of dragging or stiffness.

Although the walk is more important from a working standpoint, it is necessary to note an animal's action in trotting because defects in action are more perceptible when trotting than when walking.

In trotting there should be a clean folding of the knee and hock, the feet being carried in a straight line. The hocks should work close together, for if they are carried too far apart it causes an unsightly bandy-legged appearance.

In many cases careful shoeing will improve the gait of the draft horse and tend to eliminate undesirable features.

### Increasing Meat Supply

A STATE of war exists between this country and Germany at this time, and it is well for the nation to realize that the results of the war may be dependent upon the supply of food which is available for our armies and our population. The meat supply is a matter which must be given careful consideration.

Greatest results may be realized only by careful attention and hard work. Capital will play some part in this matter, but every man's results will depend to a great extent upon the care and judgment with which his operations are conducted, rather than upon his banker.

Here is how we can replenish and increase the meat supply: Saving the young animals at birth; mating all the females that give reasonable evidence of being able to produce young successfully; mating females with only the best males; increasing the amount of feed, especially roughness, by improving pastures, and by saving other roughness which is frequently wasted; utilizing roughness and saving grain to the greatest possible extent in meat production; eliminating and curing disease wherever possible.

### Kill Lice on Hogs

IN THE growth and development of hogs it is important to kill the lice. Crude oil is effective for this purpose, for it not only kills the lice but also destroys the nits and makes the skin and hair of the hog soft and bright.

There are many hog dips on the market, but many of these are unsatisfactory. Crude oil has been found to give better results. This oil may be applied by the use of patent hog oilers, but as a rule these are not satisfactory, for they are expensive and many do not apply the oil evenly.

One of the most satisfactory methods of applying crude oil is to drive as many of the hogs as possible at one time into an inclosure having a cement floor. Oil may then be applied to the hogs with an ordinary sprinkling can. The hogs will rub against each other and thus distribute the oil evenly. The hogs should not be let out of the inclosure until this is done.

### Ox vs. Horse Labor

By Miller Sanderson

A MARYLAND reader who has had difficulty in buying good horses and whose farming operations are too small to justify the purchase of a tractor, asks whether oxen would give him satisfactory power for his farm work. He has had no experience with oxen, and there are none in his locality. He also wishes to know the difference between an ox and a steer.

While oxen are a steady and reliable source of power, they are much slower than horses and cannot be expected to do hard work until about four years old. They are more sure-footed than horses, and work to best advantage on rough, hilly land, which accounts for their popularity in New England.

There is no difference between an ox and a steer except that the term ox signifies that the animal is mature and is used for work. The word steer implies that the animal is raised for meat. Both are castrated male cattle.



Oxen are sure-footed and are best adapted for work on rough, hilly land

Oxen should not be hurried in their work and for general usefulness on farms horses are preferred in nearly all cases.

### Wintering Sheep

SHELTER, proper feed, and good management are the requisites in bringing sheep successfully through the winter season. While some shelter is necessary, close housing is not advisable, especially with ewes in lamb. Large, dry yards in which the sheep have plenty of room for exercise are the first requirement.

Seven or eight square feet of floor space in a shed is necessary for an average-size sheep. The fleece affords sufficient warmth in dry weather, and for this reason the main need for a shed or sheep barn is protection from the storms. On dry nights the sheep prefer to be out of doors, and will winter better if allowed to be there.

It is usually more convenient to have the feed racks inside, but some roughage should always be fed out of doors. With breeding ewes toward lambing time there is danger of injury in their crowding through narrow gates. It is well to provide a pasture on which they can run during the days in dry and seasonable weather.

In wintering sheep to the best advantage, the owner should sort them by age, sex, and condition into various lots, otherwise some are almost sure to get more feed than they need, and others less.

It is economy to dispose of the wether lambs and cull ewes early in the fall, and use the winter feed and quarters mainly for a large number of breeding ewes.

The number that would do well together varies with the breed. Sheep will usually thrive better with not more than 40 or 50 in a lot.

The aim in wintering breeding ewes is to bring them to lambing time in good vigorous condition and in only medium flesh. This can be done by giving plenty of exercise and the right kind of feed regularly.

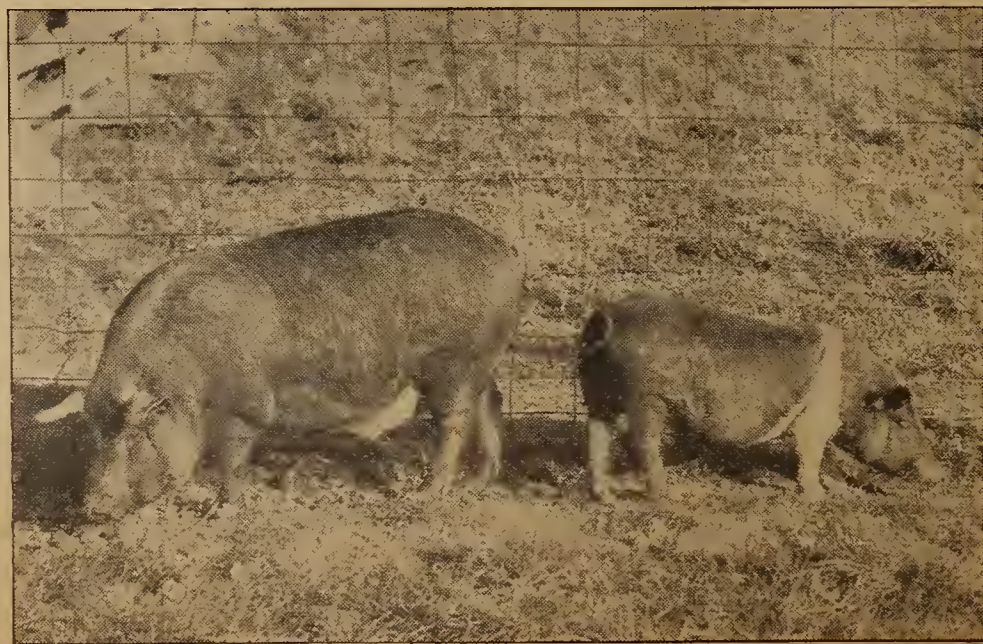
With plenty of roughage, such as red clover or alfalfa hay, sheep can be carried until nearly spring with little grain. Corn silage can be used to furnish succulence, although some losses and a good deal of trouble have resulted from improper feeding of silage.

Sheep are peculiarly susceptible to injury from moldy feed. Poorly kept silage is therefore to be avoided. A ration of oats and bran makes an excellent feed for ewes with lambs at their side. The flock should have access to water and salt at all times.

In feeding rams during the winter season, the object is to feed them as cheaply as possible but at the same time keep them in a thrifty condition. Oats, bran, and meal may be relied upon to meet all the requirements of a grain ration.

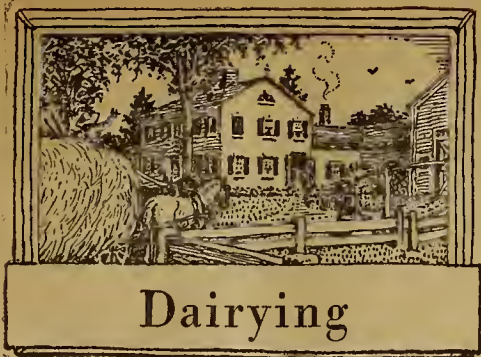
One-half to one pound a day of this mixture, along with plenty of roughage, should be sufficient.

Lambs that are being wintered, whether ewes, rams, or wethers, require the same general conditions—adequate shelter and feeding.



These pigs are litter mates fed at the Iowa Experiment Station. The larger animal was self-fed corn and tankage, on alfalfa pasture. The other one was not





## Dairying

### Why Milk Tests Vary

IT IS often observed that milk is poorer in fat in summer and becomes richer again in the fall, and the farmers have generally assumed this to be due to the watery condition of grass as compared with the dry feed received during the winter. Tests have shown that the cause of this is not grass-feeding, but the temperature. For some reason there is a tendency for the milk to be richer in fat during cold weather and to become poorer when the weather becomes very warm, regardless of the feed consumed.

A second factor of importance as influencing the richness of milk is the fatness of the cow at time of freshening. A cow high in flesh at calving time gives very much richer milk for some time than would be the case were she thin.

This knowledge is now made use of by every breeder of dairy cattle who desires to make the largest possible record for milk and butterfat production. Another interesting discovery is that when a cow is underfed she temporarily gives richer milk rather than thinner as might be expected. This is of great importance in connection with making tests of cows, and a failure to understand this effect has resulted in wrong conclusions from many experiments conducted with cows in the past.

### Butter By Churnless Method

By Mary C. Blue

TEN years ago, during a very busy time when we could not procure help, we decided to ship our cream instead of churning it. So we wrote to a creamery company asking them to send us two five-gallon cans. The price of butterfat at the time was higher than the price of butter in the small town near which we live. We disliked to lose all the buttermilk which was needed on the farm for the hogs, but when a substantial check came in payment for our first shipment of cream, that objection was forgotten.

Ever since we have made only enough butter for home use. In the days of my childhood, churning was a bugbear that all children who did that work dreaded. In my own home I frequently spent half a day at the churn because the temperature of the cream was either too high or too low. Becoming older I learned the value of proper temperatures, and a dairy thermometer now solves the long-churning problem. It pays to know just what the conditions are when working with dairy products.

During the last three years we have never used our churn from October until April. We milk several cows and have at least half a gallon of cream at a milking. For our own use we make the cream of just one milking into butter, selling the rest in the form of cream. This is briefly the method I have found most successful:

When the cream is cold I stir a little sour milk into it and place in a warm room to sour. When this is done in the morning, it is usually ready to make into butter the same time the next morning. In the meantime I stir the

cream frequently, so that the sour milk will be evenly distributed and thus make the cream of the same acidity throughout. I usually prepare the sour-milk starter for the cream in a glass jar, and if gas bubbles are seen I discard this milk, as it contains dirt or undesirable germs that will not make a good-flavored butter.

When ready to churn, I take a flat ladle and stir the cream, lifting it up and letting it fall back, trying to give it the same agitation it gets in a barrel churn. When the cream is stirred in this manner, the butter comes in granules and can be washed and cared for the same as in a churn. We make butter in less time than it takes to get the churn ready and wash it after churning. It is easier to make butter twice a week in this manner than to churn once a week. But in summer when the cows are on pasture and the cream is thin we go back to our old barrel churn.

I might add that the construction of the ladle is not specially important for this method of churnless churning. Our nearest neighbor uses a large wooden spoon, and other women use large metal spoons. A large egg beater will churn a small quantity of cream very rapidly.

More than twenty years ago we knew a woman who had two Jersey cows and who whipped the cream in a crock instead of putting it into a churn. At that time we could not understand how she was able to get butter because our gravity cream was too thin to churn by this method. But a cream separator gives such a heavy cream as to make this method easy. In small towns near here many women buy cream at the cream stations and churn it instead of buying butter.

### Use More Cheese, Less Meat

THE making of cheese on the farm and its increased consumption is advocated by those conversant with the food situation. It is one of the best substitutes for meat, and is relatively inexpensive and prepared without a great deal of trouble.

Europe has long recognized the value of cheese as a supplement to its meat diet. In the year 1911 the people of Holland consumed 8.07 pounds of cheese per person. The average consumption by the American is a little less than 3.5 pounds.

### Preventable Loss of Weight

THE increase in milk flow of cows turned onto pasture in the spring is well known, but the customary loss of weight of the cows is seldom noticed, since relatively few dairymen have occasion to weigh their stock at this time. Feeders of beef cattle, however, are familiar with this loss.

The explanation, no doubt, is the active exercise which the cattle take at this time, and also the succulent nature of the feed. The Wisconsin Experiment Station in a nine-year study of this matter has found dairy cows to shrink in weight from eight to 95 pounds during the first two weeks on pasture. This shrinkage can in large measure be reduced by feeding silage, hay, or grain. The advantage of such feeding will come in higher production and better condition of the cows during the remainder of the lactation period.

In other words, it doesn't pay to allow a cow to shrink in her weight, even though she is producing a creditable amount of milk at the same time. Keep up her weight and get still better production. The season is too far advanced to put this counsel into effect this year, but in planning for the winter feed it will be wise to lay by enough to last two or three weeks longer than usual next year.



Natural protection from the sun and flies in summer and the wind in winter makes the dairy herd contented



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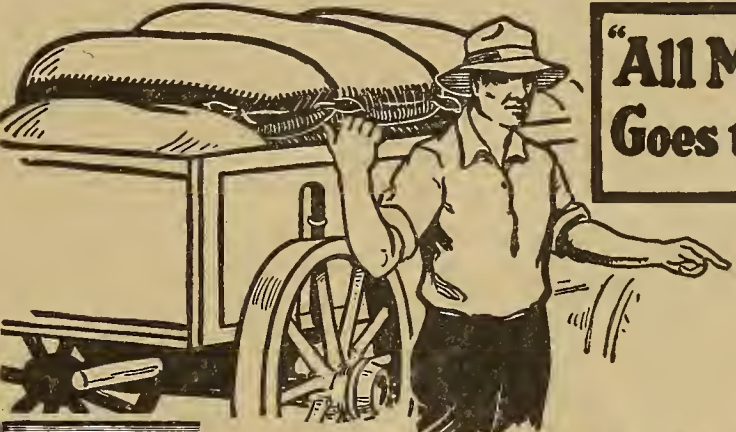
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## Poultry-Raising

### The "Lay" Bones in Layers

By B. F. W. Thorpe

THE pelvic arch at the rear of a chicken's skeleton is composed of four bones—two above and two below the abdominal cavity. These are so arranged that when felt in the living bird they appear to be two bones instead of four. These bones are properly called the pelvic bones. They change their position and become wider apart when the hen is laying or is about ready to lay, and shrink together when the hen stops laying, when she becomes broody or is going through the molting period. These changes in the position of the pelvic bones may be easily determined by handling the hen and gently pressing her body a little above the vent where the ends of the pelvic bones will be felt, varying from an inch or less to two inches, and even more, apart. Generally speaking, the hens having the widest spread of pelvic bones when laying are considered the best layers, but this is only one favorable indication among several. On the other hand, a young, vigorous, loafing hen that appears to be in good laying condition and still her pelvic bones continue to remain the width of only one or two fingers apart can be considered a failure as a layer.

It is a good plan to make something of a study of the conformation of your hens when they can be conveniently handled when on the roost. By feeling the hens' bodies carefully all over and finding the difference in the conformation of the best and poorest layers, you can get to be a very good judge of what a first-class layer should be, even if you examine the hens in the dark.

### Slackers Stay Out

IF YOU are anxious for an easy, get-rich-quick business, let poultry severely alone. But if you want an extra-good legitimate return for a comparatively small capital invested, combined with persevering attention and plenty of intelligent labor given to your prospective business, get into poultry gradually, by all means. But make sure that your foundation stock is full of vigor and has been bred for several generations for heavy egg production. Feathered loafers have no business consuming feed at war-time prices.

### A "Come Back" Business

By J. M. Swan

AFTER two years of ups and downs in the hen business, I believe I can encourage some weak-kneed poultrymen.

Last year I raised 250 pullets, moved 150 miles, and "went broke." I then got back to the old stand with five dozen pullets and started over. In the spring I bought 120 pure-bred Leghorn eggs at 10 cents each, and hatched 86 chicks in an incubator and raised 82 of them. There were 41 pullets. From that start I hatched 840 chicks. I now have about 300 pullets which were hatched in February, March, and April. These pullets began laying the last of July, and promise to give a

good account of themselves this year and next.

I still have 58 of last year's hatched pullets, which up to the last of August had laid 502 dozen eggs in the nine-months period since December 1st. They are yarded in pens of about 50x100 feet, with open-front house. These hens and chickens get good care and are well fed, but are not "pushed" for special results. They have had a variety of scratch grain, also wheat bran and crushed barley and all the green feed they will consume. I have fed no meat scrap and no animal food except what jack rabbits I kill. I am now testing buttermilk with good results, and shall continue it, as I can secure it for a few cents a gallon delivered.

I raise lots of lettuce for the baby chicks and, in fact, find that the green feed is an essential part of keeping both the young stock and the old stock in good condition.

I feel if a man sixty-two years old, in poor health and with no capital, can make poultry pay, there is certainly a good opportunity in chickens for the younger generation.

### A Boost Toward the Roost

By B. F. W. Thorpe

THERE are many late-hatched chicks now arriving at roosting age, and the trick of getting them safely to roosting without losses from crowding, overheating, and thus lowering their vitality, is no small problem. Some helps that are saving losses among progressive poultrymen are poultry-wire covered frames that can be set in the corners of the brooder houses and brood coops to prevent the chicks from crowding into the corners when sleepy time comes. Another similar help to be used later in getting the chicks to roost early are slatted or wire-covered portable bridges leading up to the level of the low roosts and so made that the chicks cannot get under, through, or behind the bridges and roosts. The chicks will then naturally walk up to the roosts when trying to get to their former sleeping place on the floor litter. It is important to place the low flat roosts just above the place where they have previously slept on the floor.

The first roosts for the youngsters can well be made in the form of a movable platform having the roosts two inches wide and a foot apart, and the entire under side of the roosting platform covered with poultry wire to keep the chicks from going down through and behind the roost to sleep on the floor. Even where hundreds of chicks are housed in one brooder coop, this plan will prevent them from crowding and overheating, since there is always air below and they will naturally prefer to sit on the roosts rather than on the uncomfortable wire.

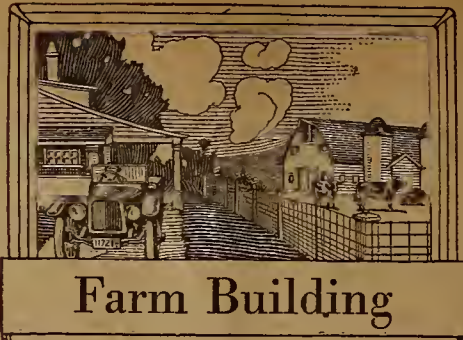
NEVER before was it so important to cull out the thriftless pullets, the slacker hens and scrub roosters. Five-cent grain should feed no inferior grade feathered stock.

ONE farm flock of 75 hens is reported as laying 120 dozen eggs in July and August which sold for \$30, the hens gleaning their entire living during that time from grain picked up from harvested fields of wheat, oats, and rye.

WHEN hens are being compelled to forage for the greater part of their living, drop into their roosting quarters frequently in the evening and feel of their crops. It is the full crop, like the full dinner pail, that gives results. If the crops are not well filled, supplement their gleanings with a good feed of grain at night. There's money in it.



This year's progeny from this bunch of breeding geese is expected to sell for close to \$200, with a grain bill not to exceed \$30. Can it be done?



## Farm Building

### Covered Scales

By Thomas J. Harris

THERE is no halfway business about a pair of scales. If they are accurate and well used, they will make the owner money. If inaccurate, he will either lose money or win trouble.

In the winter sleet and snow freeze the platform to the edge of the pit. In windy weather the wind pressure pre-



Covered scales are free from weathering and inaccuracies caused by the weather

vents good weighing. Dirt is always trying to wedge the scales. And last, but not least, there is a great deal of comfort to the person who is weighing several hundred bushels of grain to have good shelter.

The illustration shows how it is possible to keep a pair of platform scales in good repair. The small building that covers the platform is inexpensive, and it protects the planks from getting wet.

### Blasting Cisterns

By Luke D. Harber

IT IS work, and hard work, to dig a cistern. While experimenting recently, I found a successful method. This is the way I did it:

I drilled four holes in the ground about 3½ feet deep and about 2 feet in from where I wanted the wall of the cistern to be. The holes were drilled about 4½ feet apart in the shape of a diamond.

First we drew a circle where we wanted the wall to be. The diamond was then drawn inside the circle and the holes put down in each point of the diamond about 2 feet from the proposed wall. Each hole was loaded with 1½ cartridges (that is, approximately two-thirds of a pound) of 40 per cent dynamite. An electric blasting cap was inserted in each charge, and the cap wires connected up with the leading wire running out to the blasting machine.

The result of this first shot was the throwing out of considerable soil, leaving the rest so well broken up that it was easily shoveled out. After cleaning out this loose dirt, four more charges were loaded in the bottom of the hole in the same way that the original charges had been put in. The second shot loosened up the soil the same as had the first one, and on shoveling it out still another battery of four charges was loaded in the bottom of the hole. This got it down to the depth we wanted. At one point we struck a large rock about 14 inches thick. This was disposed of by drilling four holes into it, which we loaded with 1½ cartridges of dynamite. These charges were also fired with the blasting machine. The shot broke up the rock so that it could be easily thrown out.

This cistern was located within 2½ feet of the cellar wall of a residence. Of course the nearest charge was about 4½ feet from the stone wall. No harm whatever was done to the masonry work or the building above it by the firing of the charges.

To show how hard this soil was, I will say that the walls have never been cemented, yet the cistern holds water splendidly. In fact, these hard soils are the prevailing type in this section of Kentucky, and a good deal of dynamite is being used here in making cisterns, digging cellars, and for work of a similar character.





## Automobiles

### Standard Garage Sizes

By Carlton Fisher

THE proper size of garage to build is a problem that confronts the prospective car owner. Here are some dimensions suitable for cars of different size:

For one small car, if a roadster, a convenient size is 10x14 feet. For a small touring car make the garage 12x15 feet. For a medium-sized five-passenger touring car make the size 12x18 feet. A seven-passenger car should have a garage 12x20 feet.

For two cars make the garage 20x20 feet. Do not make the mistake of building the garage too small. It is well to have ample space for getting the car out and in. A work bench and supplies require room, and later on you may have a larger car.

### Truck Loads Logs

THE machine shown in the pictures has a truck body and tractor wheels. In addition the engine is geared to a hoisting drum just back of the driver's seat; a lever within easy reach controls the hoisting mechanism. While this machine is capable of doing a large variety



The driver controls the hoisting drum which loads the log

of work, its efficiency is greatest for handling logs which grow in inaccessible places. If a white oak log, for instance, is down in a gully, the driver ventures as near as possible with the machine, lets down a chain to be fastened around the log, and pulls it up with the hoisting drum.

When the log is near enough, two poles are placed in the position shown in the picture, and the log is rolled up on the load, also by the power of the engine. The same machine may later be used for hauling a string of loaded wagons to market and, besides, is capable of plowing, pulling stumps, and doing similar heavy work.

### Inflation and Chains

"WHEN I am using chains on my tires, should the inflation be any different from ordinary?" asks a car owner who says later that he has been advised to have the tires softer than usual.

Some drivers reason that if the tires are not tightly inflated, they will yield more when passing over the cross chains and the chains will not injure the tread. This conclusion, however, is incorrect since a tire not fully inflated flattens out considerably and may cause the chains to gouge the side walls of the tire where the rubber covering is thinner than on the tread, thus in time doing considerable harm. Generally when chains are used, the roads are fairly soft either from mud or snow.

### Tube-Patching Discovery

I SELDOM patch a tube on the road, because it is so much more convenient to have an extra tire along with the tube inside and ready to put on. But there are times when it has to be done, and this is how I proceed when I find myself without sandpaper to roughen the rubber around the puncture.

If I am using sheet rubber or the gasoline patches, I simply scrape the tube with a rather dull knife. A pocket knife does just as well as anything else. Be careful to draw one way to avoid cutting either the tube or the patch. It is quick and makes a clean rough surface to work on.

### Motor Gossip

ONE detective in Dallas, Texas, has recovered 800 stolen cars.

It is recommended that in the future all cars be made without cut-outs.

A San Francisco chemist has given the Government a process which is claimed to make gasoline twelve times more powerful.

As a war measure, all motor cars will be taxed three per cent of their value, using the price the dealer pays the manufacturer as a standard. The manufacturer will pay the tax.

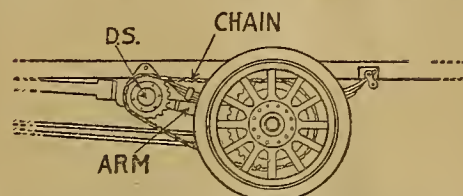
Practically any improvement can be bought for any make of car. Recently a dealer fitted out a well-known car with every accessory that could be bought and the bill stood him around \$800.

Recently women have started driving their own cars in Buenos Aires. American and British women have inaugurated the new custom, and at present there are more than 100 licensed drivers.

### Power Transmission for Trucks

SINCE trucks have come into general use, both in town and in the country, the manner of transmitting the power has been discussed.

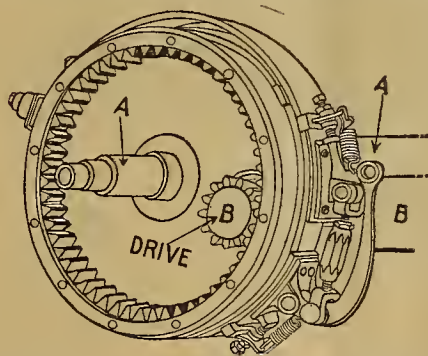
Probably the most widely known method is the chain drive. This was the drive almost universally used on all cars



The chain drive as a means of transmitting power is simple and therefore widely used

in the early days of automobiles. The term chain drive is based upon the chain which runs from the driving sprocket (D S) to the sprocket upon the rear wheels. The power impulse is delivered by the engine to the jackshaft to which the driving sprocket (D S) is secured. As a chain in service has a tendency to grow longer, due to the general wear and stretch of the component parts, a means of adjustment has to be provided so that the unnecessary slack can be removed. This is done by means of an adjustment arm.

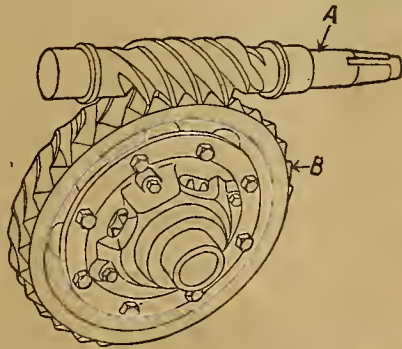
The internal gear drive is a means of applying power in a similar manner to the chain drive, but eliminating the chain. The driving pinion (B) performs the same duties as the driving sprocket in the chain drive. The power impulse is transmitted to the large gear, which corresponds to the large sprocket of the chain drive, and is affixed to the rear wheels in practically the same position.



The internal-gear drive is similar in principle to a chain drive, but eliminates the chain

Usually a means of lubrication is provided, and these gears are protected from the road dust and grime. In this drive the load is carried upon a plain axle (A) and the power is handled through a live axle (B) to which the driving pinion is fastened.

The worm drive is very similar in construction to the modern pleasure car



The worm drive is practically noiseless, as well as being otherwise very efficient and satisfactory

rear-axle construction, and great efficiency and quietness are claimed for this form of drive. The worm is the latest development in the truck field, and has many followers among the manufacturers. A in the sketch is the driving shaft, and B is the driven gear. The rear axles are attached to this gear.

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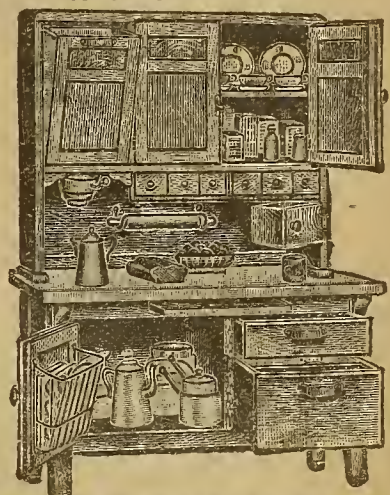
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*Some people are always lucky; they expect luck and work for it, and in the end they always have it*

# Runaway Julietta

## She Leaves Business and Arrives at Another Crisis

By ARTHUR HENRY GOODEN

PART III

BEING what he was, Paul Morrow had not concurred in her sweeping self-condemnation. His heated defense of her had not changed Julietta's opinions of herself, but they had proved comforting in their assurance of his continued faith. He had laughed gayly at her distress when he had produced sample cases and mileage ticket.

"Cheer up!" he had cried merrily. "When it comes to selling goods your Uncle Paul is there with the push. We'll make 'em hustle in our territory, Julietta."

"But coffee is a new line. If you must travel, why not stick to shoes?"

"Because I want you to forget shoes. The sooner we take a fresh grip, girl, the sooner we'll find that this old world's a pretty good sort of place after all."

"I—I think I'll go on the road too."

"You will not!"

"Very well," Julietta had assented meekly, stung by the pain in his eyes. "Then I'll teach school. I'm going to do something until—until the larger dream comes true. It will, and I know it will."

So, aided by Mrs. Drake, she secured a country school near Bakersfield. Out of her fifty dollars a month, she paid Jed Seldon twenty-five a month for board and room. It was a new experience, and kept her from overmuch self-communion.

Remembrance of these things fitted through her mind as she wrote. "And, Uncle Paul, I've moved to another house," ran her concluding lines. "My new farmer host is Jed Seldon. He has a long beard that would be a beautiful white if only he did not chew tobacco. He's a sheepman and does a lot of talking about hard times. He wants to sell his place and go to some country where there is plenty of free grazing land—but enough of Seldon. How's the coffee?"

The letter finished, sealed and addressed, Julietta went to the window. The rain had stopped, and as she flung open the sash, the soft, fresh, rain-sweet air touched her face. Through great rents in the blurred sky stars peeped joyously against a blue-black heaven.

"I'll run out to the road and leave the letter," she thought, eager for the fresh air.

The vivid breath of the rain-quicken alfalfa rose about her. Behind her the little white farmhouse loomed ghost-like against the night, with the enormous blackness of the barn lifting behind it; farther still, a row of star-sweeping Lombardy poplars stood like stately, silent sentinels. The glowing radiance of Bakersfield hung over the horizon, dimming the splendor of the newly uncovered stars.

Julietta broke into a boyishly clear whistle that cut into the night like a rapier thrust as she passed on toward the boundary fence. And that whistle represented to Beelzebub both alarms and excursions.

Beelzebub hated petticoats, as Jed Seldon's wife knew to her sorrow. Julietta had been well warned by Jed never to cross the alfalfa pasture unescorted.

"That thar ram does surely despise women-folk," had chuckled Jed. "Keep out o' the meadow if you don't want them pretty frocks all mussed up."

Having regard both for her frocks and for Beelzebub's huge curling horns, Julietta had punctiliously minded the warning until to-night—and now! The muffled thud of flying hoofs awakened her to the danger. Behind her came the old ram, a bewoiled and behorned thunderbolt of animosity.

JULIETTA threw one startled glance over her shoulder, made out the whirlwind of wrath behind, lifted high her skirts—and ran! Atalanta never ran more swiftly than Julietta ran for the boundary fence; she reached it and scrambled up, panting and laughing—then a stifled shriek broke from her as Beelzebub, in his headlong rush, crashed into the boards.

Beelzebub bounded to his feet like a rubber ball and stared balefully through the bars. Julietta, sitting in a slimy, sticky, oozy black puddle, returned the stare with interest.

"Oh, Beelzebub, you monster!"

Beelzebub clashed his horns against the fence in reply.

"Keep your old pasture!" said Julietta bitterly.

Gingerly she rose and shook out her ruined skirt. The mud was terrible stuff. It clung tenaciously, clammy. Fortunately, the letter had been preserved intact, and Julietta hastened on across a strip of useless, unfarmed land to the road.

Reaching the mailbox, she deposited the letter and turned homeward by the drive. Her jubilation had departed; her feet oozed mud, her soiled skirts flapped dismally about damp ankles, and she hastened to her room with vexation urging her.

Ten minutes later footsteps outside her door interrupted her rueful meditation of spoiled skirts and

stockings. With those same "humility stockings" in her hand she threw open the door. Jed Seldon, candle in hand, was slouching down the hall, his placid, gray-haired wife meekly in the rear. At Julietta's call he turned.

"Just goin' to bed," he announced querulously. His glance fell on the soiled stockings and skirt. "Oh, took a fall in the mud, did ye?"

"Yes—in such dreadful mud. Please tell me what will take it out? It left my skirt stained a greenish-black and seems horridly slimy."

The old man approached and bent over the garments, shading the candle with one huge, gnarled hand.

"Well, I swan!" he grunted. "Ain't that there mud

old rancher discreetly, wondering how she might best approach the subject which had kept her wide-eyed through the still hours of the night—the subject which kept her heart fluttering.

"Goin' to church?" inquired Seldon. "No? That's too bad. The wife was sort of aimin' that you and her'd be goin' together. The old lady wouldn't miss church for no money."

Julietta looked at quiet little Mrs. Seldon, and laughed merrily.

"How long have you owned this ranch, Mrs. Seldon?"

"Pretty close to twenty year," was the answer, accompanied by a sigh.

"Yes, tarnation take it!" agreed Jed. "Danged fools we've been to keep it so long!"

"I was thinking," said Julietta meditatively, "that I might know someone who would buy the ranch if you really want to sell it."

Seldon, visibly impressed, put down his knife and stared at her.

"Say! For a fact, now?"

Julietta nodded.

"Yes. One of the best friends I have in the world."

"Oh!" Jed dropped a sly wink. "I see! A young man, eh?"

"No; a woman."

"Oh! Thought ye might be goin' to spring a bit o' news."

"News?" repeated Julietta demurely.

"Yep. Thought ye might be gettin' married." Seldon rose from his chair and stood looking down at her, stroking his gray beard reflectively. "Money's money, out o' a man's pocket or a woman's. Yep. I'll sell right enough. Sixteen thousand for the three hundred an' twenty. That's fifty dollars an acre, an' dirt cheap."

"I suppose you'd give me an option for thirty days?" inquired Julietta carelessly.

"My word's good."

"Sure. But, Mr. Seldon, my friend might change her mind, and in that event you could keep the option money. I'll give you two hundred dollars to-morrow, and the option can be made out in my name as agent—see?"

TEN minutes later Jed Seldon left the room. His wife, a pathetic, work-worn woman, gazed at Julietta with uncertain eyes, and Julietta felt uncomfortable.

"So you've been here twenty years, Mrs. Seldon?"

"Yes." The other woman smoothed her apron with wrinkled hand. "Hard years too. You—you don't mind me tellin' you something, my dear? This friend of yours, she's a woman like you an' me—well, somehow I can't stand to see another woman get taken in on this land of ours. Don't tell Jed I said so, o' course, but don't you advise her to buy."

"Oh, you darling!" Julietta put her arm about the worn shoulders. Mrs. Seldon flushed.

"Mebbe it ain't loyal—to Jed. We need the money bad, but—"

She hesitated. "But somehow I wanted to tell you that about not wanting another woman—"

"Another woman!" exclaimed Julietta, laughing. "And you've lived here twenty years and never guessed? And you don't even suspect me now?"

Mrs. Seldon gazed at her with wondering eyes. But Julietta turned serious.

"Perhaps I've too much conscience," she said bitterly. "I am the woman who was my own friend. I am the one who was to buy this ranch. Don't you see, Mrs. Seldon? You'll get oil by drilling—beyond a doubt. A single oil well on this place will make your fortune, and with luck you may drive a dozen wells."

Into the faded eyes leaped a gleam—that died swiftly. Mrs. Seldon shook her head.

"Jed's a sheepman, Miss Dare. He don't know nothing else, and he can't turn a deal without losin' money on it. Some men is that way."

"But don't you see?" cried the girl. "I'm not going to buy the ranch—now. I'm telling you about the oil—I couldn't rob you."

Mrs. Seldon's stolidity forsook her, and she pulled her apron up to her eyes, while Julietta's hand met a convulsive grip.

"Now listen, my dear!" said the older woman unexpectedly. "You're smart, and—and we're plain bat-blind folks as can't see anything in front of us. It's no use talkin' oil to us, my dear. Somebody would come along and get the ranch away from Jed, oil and all. He's fine for sheep, but he can't put through a deal. If you can get our sixteen thousand out of it I'll be thankful to you all my life—"

"Then you'll not tell Jed about the oil?"

"No. Jed'd only lose it anyway, in the end."

Julietta leaned forward, her face flushed with excitement, her eyes like stars.

"Listen, Mrs. Seldon! If that's your attitude, then I'll go forward, take the option, and if the oil proves a success assign you enough of [CONTINUED ON PAGE 25]



The grapes had awakened in her an intense craving for the San Joaquin

from the bog out in front of the big alfalfa pasture?"

She told briefly of her encounter with Beelzebub, whereat he chuckled grimly and wagged his long beard.

"Thar now—what did I tell ye? Lucky ye made the fence! And ye went and sat right in that ile bog!"

"Ile bog?" repeated Julietta, frowning.

"There's oil in it, dear," explained Mrs. Seldon. "He means oil."

"Course I mean ile. Didn't I say ile? Too bad ye got all mussed up, Miss Dare. I reckon ye can't clean them things—that pesky ile bog clear spiles everything. Well, good night to ye!"

He lumbered off, his wife following; their shadows danced grotesquely on the wall behind. Julietta closed her door and stood staring at the "humility stockings" in her hand.

"Why, of course!" she whispered, awe in her blue eyes. "It is oil, isn't it?" For a long time she stood staring down at the stockings; then, mechanically, began to undress.

At breakfast the next morning Julietta studied the

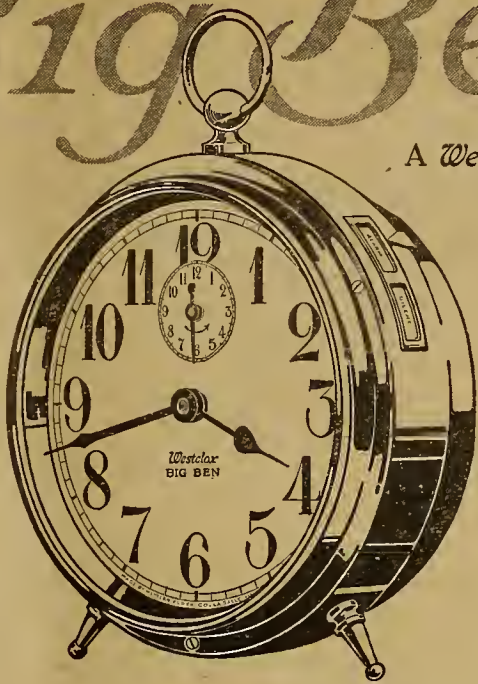
### The Way It Began

AS a girl of ten, Julietta ran away from her uncle's ranch, was adopted and brought up by Paul Morrow, and went to work for the Truitt Company, of which he was president. She was a good business woman, and secured a contract from the Japanese Government for a million pairs of Truitt shoes. Then the leather trust refused to furnish the leather, and Paul Morrow was ruined. Julietta began to teach a country school, and her guardian went "on the road" once more.



# Big Ben

A Westclox Alarm



## Comrade of Ambition

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Big Ben of Westclox knows each ambition. Big Ben understands each dream. He's a loyal guardian of high ideals—a faithful business guide.

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Hanes is form-fitting, elastic and comfortable. The fleecy-warm cotton is mighty fine protection from the cold—and it feels mighty good, too. Pre-shrinking keeps it true to size and shape.

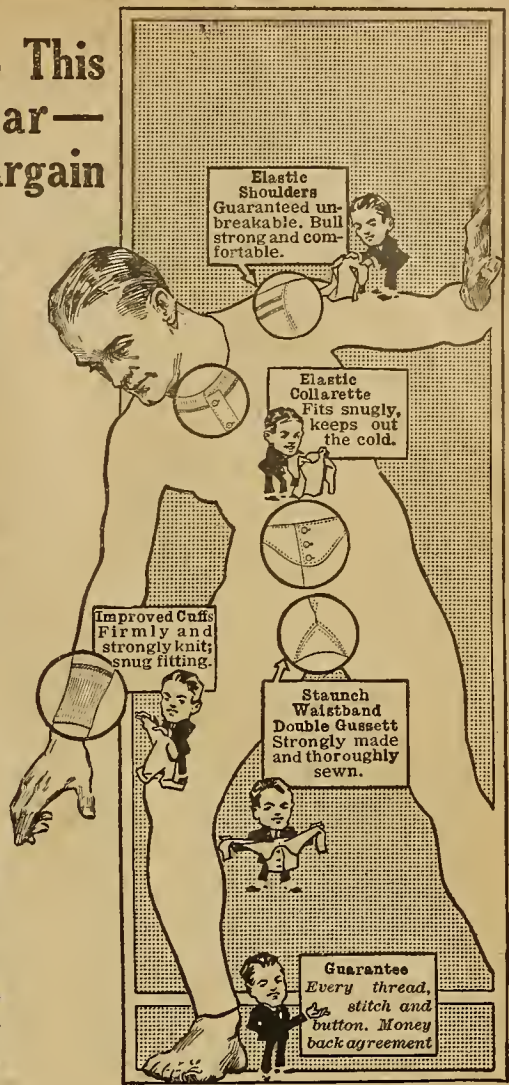
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Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" Label.



## I Have Four More AUTOMOBILES

## To GIVE AWAY

### My Personal Word to You

Dear Friend and Reader:  
I want a word or two with you personally right at the start. The Publishers of FARM AND FIRESIDE allow me to give away thousands of dollars in prizes every year for the purpose of making new friends for our great National Farm Paper. Hundreds of people, yes, thousands, have been pleased and gratified as the result of our unusual liberality in awarding valuable gifts, because everyone who takes part in these friendly Grand Prize Distributions is sure to be rewarded. In each of my past prize offerings I gave 3 automobiles as Grand Prizes. In this one just starting I offer 4, so you see your chances of winning are even greater than ever. I want to assure you that everyone who enters will receive fair play and honest treatment.

—T. R. LONG, Auto Contest Manager.

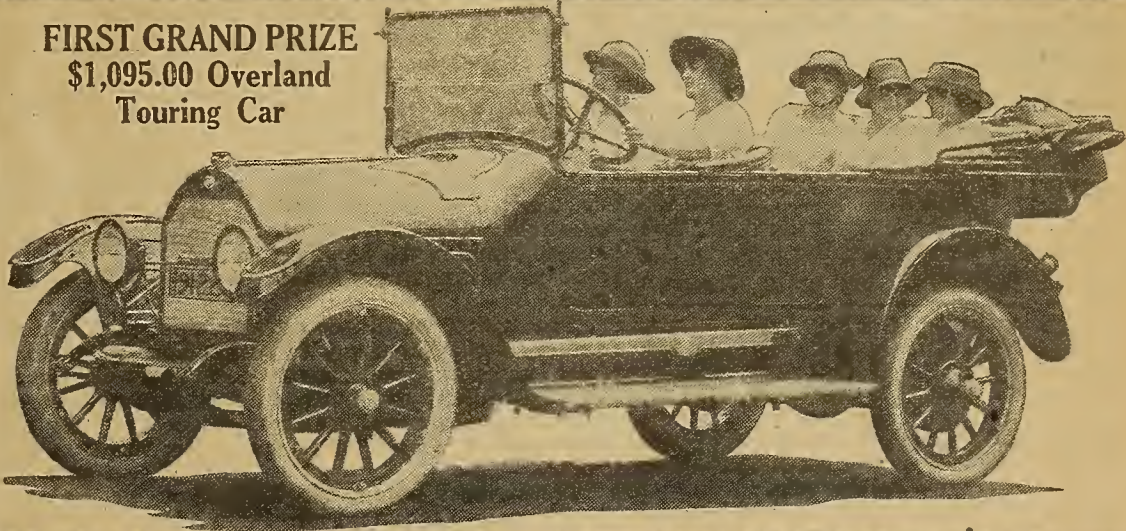
## You Can Get One of Them

The cars that I am going to give away this time are as follows: \$1,095.00 6-cylinder Overland; \$750.00 4-cylinder Overland; and two latest model Ford Touring Cars. Every car is brand new, fully equipped and comes freight prepaid to your nearest station. Can you think of anything that would give you greater pleasure than to receive a message from your station agent saying that your big touring car is there, ready and waiting for you to drive it home?

I am now making it possible for that very thing to actually happen to you. No matter who you are, where you live or what you do, you have just as great an opportunity as anyone else to secure one of these fine touring cars *Without Cost*. But you must first send me your name.

**T. R. LONG, Auto Contest Manager**  
Farm and Fireside Dept. 7 Springfield, Ohio

FIRST GRAND PRIZE  
\$1,095.00 Overland  
Touring Car



## Mail the Coupon NOW

That's all I am asking you to do right now—just send me your name on the coupon so that I can mail you our free literature describing my proposition. You risk absolutely nothing, and place yourself under no obligation whatever. The fact is, I am positively going to give away these four fine touring cars, and you might just as well have one of them. I will credit you with 5,000 Votes just for sending the coupon, and then if you can't accept my proposition, there is no harm done. You can't lose—so why hesitate? Sign, clip and mail the coupon AT ONCE.

I never heard of the happy winners pictured below until they answered my advertisements.

## COUPON

T. R. LONG  
Farm and Fireside, Dept. 7  
Springfield, Ohio

DEAR SIR:  
Without obligation to me, please enter my name for consideration in your Grand Prize Distribution and send me complete description of your plan of giving automobiles away.

Name .....

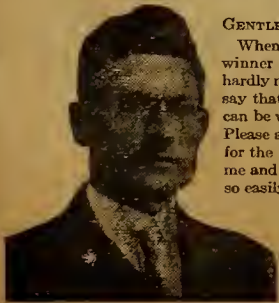
Town .....

R. F. D. ....Box.....

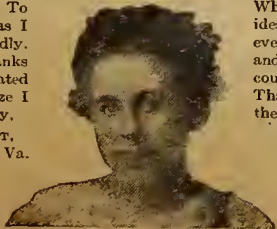
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**THIS COUPON GOOD FOR 5,000 VOTES**

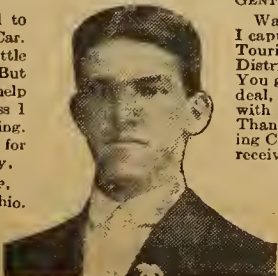
## I Have Already Given Cars to These People



GENTLEMEN:  
When you told me I was the winner of the Overland, I could hardly make myself believe it. To say that I am just as happy as I can be would be putting it mildly. Please accept my heartiest thanks for the splendid way you treated me and for the handsome prize I so easily won.  
Yours truly,  
PAUL HALBERT,  
W. Va.

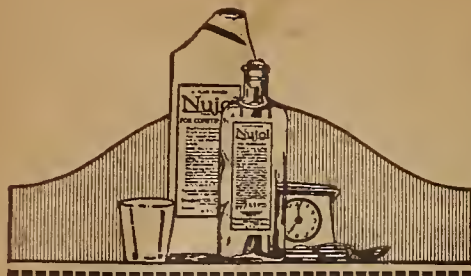


GENTLEMEN:  
I am certainly mighty proud to know that I won the Touring Car. When I first wrote you I had little idea of being so fortunate. But everyone seemed so anxious to help and boost me along that I guess I couldn't keep from winning. Thank you again and again for the excellent reward. Sincerely,  
(Mrs. Geo. Bishop,  
Ohio.



GENTLEMEN:  
Was glad indeed to learn that I captured second prize—a Ford Touring Car. Your Grand Prize Distribution plan is unsurpassed. You give everyone a fair, square deal, and I am fully satisfied with all my dealings with you. Thanking you for the Ford Touring Car and the fine treatment I received, I remain,  
"A Happy Winner,"  
T. C. LINGERFELDT,  
N. Car.





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# AGENTS!

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# AGENTS

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No scheme—no contest—an honest business offer. Earn big money—\$6 to \$8 a day—with easy work and obtain this fine wagon without cost besides. A business all your own. Better than owning a small store. Work half as hard, make twice as much money. Steady, healthy, profitable outside work. No experience necessary. We will start you right and make you win. This is your opportunity—write quick.

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The famous "Perfect" Regent. Burns wood or coal. Hot blast construction uses ALL the fuel. Swedge joint prevents bolts burning off. The double feed doors admit large lumps of coal. Two draft dampers. Draw center shaker grate. Mica windows. Nicked trimmings. Heavy cast iron base. Extra strong fire pot. Floor space 21x21 in. Fire pot diameter 15 1/2 in. Shipping weight 168 lbs. Shipped direct from our foundry either in Central Ohio or Michigan. Order by No. 387MA13. Price \$16.95. No money in advance. \$2.85 in 30 days. Payments \$2.82 every 2 months.

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Great 454 page Book shows thousands of amazing bargains in furniture, stoves, ranges, rugs, carpets, silverware, phonographs, washing machines, engines, separators and other farm necessities. 30 days' free trial on anything you want—and a year to pay. No C. O. D. No deposit. Send post card for this big book.  
**The Hartman Co.,** 4039 La Salle St., Dept. 52, Chicago



## Housewife's Club

### A Pumpkin-Time Bazaar

By Emily Rose Burt

SEVEN giant pumpkins set down in a November cornfield lighted by a harvest moon and a myriad of jack-o'-lanterns met your eye when you entered the hall where the bazaar was held. Upon closer inspection the huge pumpkins proved to be real booths in disguise.

In each case, a big wagon umbrella had been set up firmly, and from the top, laths or strips of woven wire had been extended out and down to the floor to make a curved framework. Lengths of orange cheesecloth were then sewed together to form the pumpkin rind, and gathered at the top around the umbrella ferrule, which in turn was covered with green to represent the pumpkin stem. To it were wired one or two big green leaves cut from cambric or paper.

The front of each booth was left open, the orange curtains parting to show a counter on which the various wares were displayed. Kitchen tables or plain boards resting on uprights served as counters, with the lower part hidden by a short cheesecloth curtain.

The attendants all wore white, topped off with little green paper caps out of which wire handles stuck up straight to simulate jack-o'-lantern covers. The floor was strewn with corn husks, and cornstalks filled the corners and bare spaces.

Up in a far corner shone the harvest moon, a big circle of orange tissue paper stretched over a barrel hoop hung in front of a lighted lantern or an electric light.

The usual products of a country fair were on sale in enticing form. From the first booth waved an American flag, and under the sign "Soldiers' and Sailors' Comforts" were gathered gifts for the army and navy lads. Unfilled comfort bags and the articles of equipment for them, little jars of jam and marmalade, tin boxes of preserved ginger and flagroot, and packets of home-made candy, were on sale.

In the second booth, fancy work and knitted and crocheted articles were assembled under the heading "Advance Christmas Presents."

The third booth contained aprons, holders, sweeping caps, and other household utilities; the fourth sold home-made candies; the fifth, canned fruits and vegetables; and the sixth, ice cream and sponge drops, to be eaten on the spot.

The seventh booth, which stood off by itself, was placarded as Peter, Pumpkin Eater's House. Instead of a counter it had, covering the entrance, a complete curtain, terrifying in its resemblance to a jack-o'-lantern's face.

Peter himself stood outside the door singing a variation of the well-known old rhyme to attract customers:

Peter, Peter Pumpkin Eater,  
Had a wife and couldn't keep her,  
Put her in a pumpkin shell,  
Where she tells fortunes very well.

Near-by Peter's House stood a wigwam of cornstalks which seemed to be the center of a crop of baby pumpkins growing on trailing green vines among the corn. The Indian girl who lived in the wigwam readily picked a pumpkin and gave it to you on receipt of five cents. Thereupon you discovered that the pumpkin's orange crepe-paper skin covered a two-inch ball of cotton batting, which concealed a surprising little "grab."

A pieman with a big tray circulated among the crowd, hawking pumpkin pies—little saucer ones—at a nickel each.

An appropriate November entertainment could be given toward the end of

such an evening, or on the second evening, if the fair lasted two days.

NOTE: A list of suitable material for a Thanksgiving entertainment will be sent on receipt of a stamped self-addressed envelope by the Entertainment Editor, FARM AND FIRESIDE, Springfield, Ohio.

### For Black Silk

By Fern Lawrence

IF YOU have a black silk dress which has lost some of its luster, do not think of throwing it away, but sponge it on the wrong side with tepid water to which has been added a little vinegar. Iron with a moderately warm iron on the wrong side until dry. This restores the black color but does not leave a shiny surface on the right side. I made over a dress this summer, and it looks almost as good as new.

### Improving Old Floors

By Monica Kelly

THE floors in our tenant house were not good. We could not afford to lay new ones, and yet I sympathized with the desire of our tenants to make their house as attractive as possible.

In the sitting-room I helped the tenant's wife to apply a coat of linseed oil to the floor, which was of pine, very old, and disfigured by wide cracks. We then filled the cracks with a ready-to-use crack and crevice filler and stained the floor oak, completing the job with a coat of floor finish. It was an exceedingly good-looking floor in contrast to the original.



## The Gift Yoke

A VERY simple design but one that you like because of its simplicity is this pretty yoke. Complete directions for making it will be sent on receipt of four cents in stamps by the Fancy-Work Editor, Farm and Fireside, Springfield, Ohio.

In the bedroom we stretched strips of old sheeting tightly over the floor, gave it two coats of brown paint, and covered the center of the room with a rug made out of an old ingrain carpet.

I have found that it is best in fixing up old floors not to use bright stains or paints which call attention to the defects, and I like light colors which do not show every speck of dust. A floor which harmonizes with the woodwork and rug, and which carries out the decorative principle that the floor should have the depest tones in the room, and yet which does not show the dust easily, is an ideal one.

The rugs I choose are not expensive. They are quiet in color and design, and harmonize well with the walls and draperies.

### A Delicious Sauce

By Lillian G. Copp

SOAK evaporated apples overnight, and the next morning stew with one third the quantity of fresh rhubarb. Add a tiny pinch of soda to the sauce while cooking, to save sugar. This is delicious to eat either with bread and butter or to use as a filling for cake.

FOR LIGHTNESS—Cornstarch is lighter than flour. For the eggless cake use two tablespoonfuls, level and sifted, in place of that amount of flour, and further employ extra beating as an egg substitute.  
L. T., Maine.

## Eat Hominy

By Grace Rawson

HOMINY is, with the exception of cornmeal, the cheapest cereal on the market, and when properly prepared it is one of the best. There are three kinds in use—pearl, grits, and flake. The pearl is more difficult to cook than grits or flakes. Many fail to obtain good results because sufficient water is not used in cooking. It burns easily and is improved by beating in half a cupful of milk before serving. The following recipes are tried and true:

**PLAIN CEREAL**—Five cupfuls of boiling water, two level teaspoonfuls of salt, one cupful of hominy grits. Add the grits slowly to the boiling salted water, and cook about ten minutes on the stove. Place in the fireless cooker for at least three hours, or leave on the stove until thoroughly cooked, stirring frequently. As a breakfast dish, slice cold and fry in hot drippings. For a meat dish, fry pieces of bacon until very crisp, remove, and to the hot fat add one tablespoonful of flour and a pinch of salt. When thoroughly mixed, add one and one-half cupfuls of milk. Boil. Serve the hot hominy with the gravy and bacon.

**HOMINY CAKES**—Add one-half cupful of milk or water to two cupfuls of cold cooked hominy, one egg well beaten, about one-half cupful of flour sifted with one-fourth teaspoonful of salt and one teaspoonful of baking powder. Beat well. Bake in rather thick cakes on a hot griddle.

The flake hominy is lighter and about three cupfuls of the flakes are used to four of water. They may be cooked and served in much the same way as the grits.

### Scotch Stew

THE cheaper cuts of lamb or mutton are utilized in this dish.

Three pounds of meat cut into small pieces will make a stew for a large family. Remove all skin and superfluous fat from the meat, then cut into small pieces. Wash carefully, put into the kettle, and cover with about three pints of cold water; bring to the boiling point quickly, then skim, and add one-half cupful of barley that has been soaked in cold water overnight. After the stew has again reached the boiling point, draw the kettle to the back of the stove and simmer gently for an hour and a half or two hours. Now prepare the vegetables for the stew, about one-half cupful each of potatoes, turnips, carrot, and a tablespoonful of onion. Peel and cut the vegetables into small pieces, add them to the stew, salt and pepper to taste, then let cook until the vegetables are well done. Now stir two tablespoonfuls of flour and a little milk to a smooth batter, add to the stew one-half cupful of rich sweet milk, add the thickening, let boil up, stirring all the time, then serve when a gravy has formed. This is a most delicious stew. Cut stale bread into rather thick slices, these slices into smaller pieces, place in the bottom of a deep platter and pour the stew over them.

### Snowy Nuts

By Lillian Trott

THOSE living in the land of chestnuts delight in this dish. Pour boiling water over the chestnuts, to whiten them. Cover with milk and slowly stew till softened. Mash with a quarter their weight of honey, press through a sieve, and send to table heaped in individual dishes surmounted with whipped cream.

**EGGLESS CARROT PUDDING**—One-half pound grated carrot, one-half pound suet chopped fine, one pound raisins, three-fourths pound brown sugar, one teaspoonful salt, one-half grated nutmeg, one-half teaspoonful soda, one pound of flour, one ounce of nut meats or the inside of pumpkin seeds (which cannot be distinguished from nuts). After thoroughly washing raisins stir them into the dry flour, then add other ingredients and mix with cold water to make a very stiff paste. Steam three hours. Serve with whipped cream or any preferred sauce.

S. K. K., Colorado.



# Looking Your Best

Ways That Keep the Skin Smooth in Winter

By MARGARET DRUMMOND



NOW that the cold winds are blowing and the frost is in the air, every woman should take particular pains to avoid chapped hands and rough skin. There is nothing which will put "the roses in your cheeks" more readily than the chill, brisk winter air, but nothing so harms the skin as to allow it to become rough and chapped by neglecting to take care of it.

A golden rule to follow at this season of the year is never to allow your circulation to become low or neglect the care of your face and hands. Every housewife ought to make this as much a part of the daily routine as the housework itself.

Sleep with your windows wide open, for even if the room is cold the air in it will be fresh, and you must have plenty of fresh air and oxygen if you want a good circulation and the red blood that makes a good complexion.

The young or middle-aged woman who can stand a cold plunge or sponge bath every morning, with a brisk rub-down and ten minutes of exercise afterward, will find it most invigorating as the days grow colder. Those of you who do not have the warm glow that comes immediately after a plunge into cold water should avoid cold baths, and do not think that you are unhealthy if a cold bath does not give you a reaction. In this case it is far better to take a bath in tepid water. The best rule to follow is that given by an eminent authority on nervous troubles of women: "Be your own judge in the matter of cold baths. If you can stand them, they are a very good nerve tonic and harden the skin to cold. If you do not have a decided warm reaction, the best nerve tonic is to take a warm bath, with a cold shower to finish, and let the brisk rubbing with a coarse towel supply the brisk circulation." If you have not been used to taking cold baths, it is better to accustom your system to this daily habit by degrees. Get a bath thermometer and start with tepid water, then gradually make the bath colder each day until you can stand the water at a temperature of 40 to 45 degrees.

The woman who cannot stand the cold plunge every morning will find it equally as beneficial to take a warm bath at night before retiring. Rub the skin thoroughly dry with a coarse Turkish towel and get into bed immediately.

But, by all means, take at least one bath, either hot or cold, every day. The skin needs exercise. It has certain functions to perform, and it is absolutely necessary to bathe frequently and regularly if you want a healthy skin, which is the basis of a good complexion.

Avoid indigestion, and a red nose by breakfasting as soon as you are dressed, and never do a hundred little odd things about the house before giving your system the fuel it needs in the shape of food. First keep your body in a healthy condition to preserve your complexion, and then take care of your complexion to avoid chapping.

IT IS a mistaken idea that bundling up to the eyes and covering the face with thick veils protects the skin in the winter. The more the face is exposed to the fresh air the better it will be for the complexion, and there is nothing more invigorating and beneficial than a brisk walk during a snow flurry. Never carry an umbrella when it is snowing. The best kind of water to wash your face in is soft rain water, and as snow is only frozen rain water there is surely no reason why it should be injurious to the skin.

Do not wash your face before going out into the open air, but if cleansing is necessary, apply cold cream and rub it well into the pores, afterward wiping the face with a soft towel. Cleanse the face with cold cream and a good massage cream at least once a week, and apply a lotion to the face, hands, and lips every night before retiring. The lips are more susceptible to cold and chap more easily than any other part of the face.

A very good lotion is made as follows: Pour a pint and a half of boiling water over five cents' worth of gum tragacanth and allow it to stand overnight. In the morning, when the gum tragacanth should be well dissolved, add to it ten

cents' worth of glycerin, ten cents' worth of oil of bergamot, and ten cents' worth of bay rum. Pour into bottles and use as needed. This amount makes enough to last a small family all winter. Or, if you do not wish to bother making a lotion, buy any one of the number of well-known advertised lotions of cold cream. Most of them are perfectly reliable.

Cold weather is especially hard on the hands, and if they have a tendency to redness, this defect will become more exaggerated in the very cold season unless unusually good care is taken to prevent roughness.

The woman who does her own housework should always have her hands thoroughly clean and dry. Always keep a small bottle of hand lotion near the sink, and use it freely after washing dishes or having your hands in hot water for any length of time, or after you have been paring vegetables. If your table is at some distance from the sink, never wash the dishes and walk to the table for the soiled dishes without drying your hands, and never try to answer the doorbell or the telephone with hands red and damp from the dish water, but keep a towel in a convenient place so you can dry them well if you are suddenly called away to another task. Let these simple reminders become a part of your daily routine and you will soon find that you have fallen into the excellent habit of never overlooking them.

NEVER go out, if only for a very few steps, without gloves, and never carry a muff and neglect to wear gloves, for even though the muff will keep your hands warm it will not protect them from the air and chapping like gloves will. If, when coming in from the cold outdoors, the hands are stiff and red, first soak them in cold water and then dry and rub them well to bring back the circulation. After the circulation has been restored, apply the above lotion, or some other that dries rapidly.

When the hands are badly chapped, with knuckles cracked and bleeding, the best remedy is to wear a clean pair of loose white cotton gloves at night, first rubbing your hands with cold cream or lotion. Keep the gloves on all night. In the morning wash your hands in tepid water, rinse well, use a quick-drying—not greasy—lotion, and, most important of all, dry them thoroughly.

**For Split Hairs**

M. C., ILLINOIS—You seem to be taking good care of your hair, and it should be healthy. Try massaging your scalp for fifteen minutes every night to bring about good circulation in the scalp, then brush it as long as you can. Brushing and massaging are splendid when you are troubled with dandruff and your hair is falling. Once in a while cut the split ends or have an expert hairdresser singe your hair.

**Strengthening Weak Ankles**

L. S. E., KANSAS—The best exercise to strengthen your ankles is rising slowly on your tiptoes and then lowering again as slowly as you can. Walking, swimming, skating, and riding are good muscle developers, and should help you. Do not wear low shoes too much. High, stout boots are the best for walking.

**Using a Depilatory**

M. W. V., OHIO—To bleach hairs on your face use hydrogen peroxide daily. It is perfectly harmless and will bleach the hairs so that they are not too noticeable. Depilatories should not be used on the face, as they generally increase the growth. You are probably too sensitive about your face, and will find that few people notice what troubles you so much.

**Wants Smooth Hands**

T. G., MISSOURI—I am sending your letter about your eyes to Dr. Spahr. Please watch his column for an answer. Some of the suggestions in this column may help you with your hands. Try rubbing into them a good lotion or cold cream and sleeping with loose canvas gloves on them. Never go out without gloves, and always dry your hands carefully after washing them.

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Mrs. Charles B. Knox,  
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Wash  $\frac{1}{2}$  cup rice and cook until tender in a double boiler with 2 cups of scalded milk and 1 teaspoonful of salt. Soak 1 envelope Knox Sparkling Gelatine in  $\frac{1}{2}$  cup cold water 5 minutes and dissolve in  $\frac{1}{2}$  cup boiling milk. Add 1 cup sugar. Strain into the cooked rice, chop fine  $\frac{1}{2}$  cup maraschino cherries and add 1 teaspoonful vanilla to the mixture. Whip 1 pint of cream until stiff and when mixture is cold, fold in half of cream. Turn into mold. Remove from mold and garnish with remaining whipped cream sweetened and  $\frac{1}{4}$  cupful of whole cherries.

# France on War Rations

Have Black Bread for Paris; White at the Front

By FRED B. PITNEY

HOW many times I have heard soldiers on leave from the front say, "I would rather have our bread at the front than your bread here in Paris!" The same thing was true of coffee. Soldiers would say, "What do you call this stuff? We get real coffee at the front."

At the rear the civilians drank a compound from chicory, for the coffee supply was short, while the real coffee was reserved for the army. In like manner, the soldiers get a purer wheat flour than do the civilians. The wheat supply being so much curtailed, two measures have been necessary to try to increase the amount of flour.

A law has been passed requiring the mixture of 30 per cent of other grains with wheat in making flour, while another law raised the percentage of extraction permitted in the manufacture of flour. Before the war this percentage was 70, it has been raised successively to 74, 77, 80, and 85. Seventy-seven is the extreme limit of nutritive extraction. After that the flour becomes permeated with particles indigestible for human beings.

The result of mixing grains and high extraction has been a flour that is often not only unpalatable but indigestible, and it has caused not a little sickness, particularly gastric troubles among the children. Adults frequently throw

which 500,000 tons were imported. In 1916 the imports rose to over 1,000,000 tons, and the stock was still short 500,000 tons.

When you travel over France you speedily learn the reason for the shortage in the grain crops. It is because there is not the labor to do the farm work. Cultivation has to be left to the old men, the women, and the children. All others have been taken for the armies and the defense of the country.

In crossing and recrossing the French agricultural regions it has been a continual source of wonder to me how the few workers in the fields have been able to produce the crops they have achieved. You see plows with the handles held by women and the horses led by small boys, women stooping among the long rows of corn, cultivating the ground, groups of women slowly crossing the fields, creeping on their knees, painfully tending the newly planted crops.

### Why the Crops are Short

There is no wonder that with this tremendous shortage in labor, fields are left bare, while those that can be cultivated produce less than the normal amount per acre. What would our Western farmers think of turning the land in the spring with long-bladed hoes? Yet I have seen this very thing



Photo by Central News Photo Service, New York

German prisoners are assisting in the work on many farms in England. A detachment of prisoners is here shown preparing a field for a crop

away the soft inside of the bread and eat only the hard-baked crust. Very often I have found this "war bread" an unpleasant dark brown in color, with a soggy, glutinous inside. It is no one's fault. It is the best that can be done under the circumstances.

Another problem enters with the authorization to mix other grains with wheat in making flour. It is the shortage of the other grains. For it is not only wheat that is short in France, but all cereals. We can have recourse once more to the official figures.

The annual consumption of barley in France before the war equaled approximately 1,250,000 tons, of which about 15 per cent was imported. The production has fallen off to such an extent that nearly one third of the barley had to be imported last year. This year, owing to special reasons, the production will be slightly higher, but there will still be a deficit far above the normal. Furthermore, the deficit in barley must be considered not only in relation to the normal consumption, but also with regard to the fact that it must be used very largely to supplement and replace wheat.

### Even Rye Much Below Normal

With rye the normal consumption was about the same as for barley, with imports of about eight per cent of the requirements. In 1915 the production was about 400,000 tons under the normal consumption, and in 1916 it was about 350,000 tons under the consumption, while in both of those years there were practically no imports. Thus there was less rye than was needed, and rye could only help out wheat by reducing still further the amount given to its normal uses.

The annual consumption of corn averaged 1,150,000 tons, about one half being imported. The proportion of imports in 1916 had risen to two thirds.

The annual consumption of oats before the war was 5,500,000 tons, of

being done in many parts of France because of the dearth of agricultural machinery.

Most of the farm implements of France before the war were of American make. You saw the American mark on the plows and harrows, the rakes and reapers, and the binders and threshers all over France. Since the war much of this machinery has deteriorated sadly, and a great part of it is entirely unfit for use because there are not the mechanics to keep it in repair, and there has not been the importation of new machines and parts to replace the old and worn-out pieces.

France is a country at war, very really and terribly at war. The invader is on her soil. Her mines and furnaces and factories are in German hands. Her richest manufacturing provinces are held by the enemy. Her men must go to the trenches to defend their country and drive back the hordes from across the Rhine. And those men of the armies must be fed and have the means to fight. Above all, they must have arms and munitions, big guns and shells.

Every thought of France for three long years of a bloody and sacrificial war has been given to *les braves* at the front. Little has remained for the civilians at the rear, who have borne their trials in stoic calm for the sake of the soldiers in the trenches. And in those years the resources of France have suffered, especially the farm resources, for imports have had to be directed to the army. The steel brought in has been for shells, the machinery to make more shells and guns. The plowshare has been beaten into a sword, while the reaper has rotted idle in the fields, with only the hands of women and children to tend it.

Now France needs grain. She must have grain to make bread both for soldiers and civilians. And only America can supply it. The burden of victory lies as heavily on our Western farmers as on the soldiers on the battlefields of France.

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- (8) Strong pearl buttons
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- (10) Triple inspection





## Runaway Julietta

[CONTINUED FROM PAGE 20]

an interest to make you rich for life. First of all, I'll have to raise the sixteen thousand, of course, and I'm gambling my two hundred on the option that experts will give a favorable decision about the oil. Then it's only a question of selling enough stock to—"

"God bless you, my dear!" broke in Mrs. Seldon, her arms going out to Julietta. "I—I guess I'll go to church now—and—and thank God for sendin' you here—and I won't tell Jed a word o' what you've said."

Julietta laughed, a greater happiness in her heart than she had known for weeks.

**M**INES move in a mysterious way their wonders to perform. An industrious chicken, scratching on the bank of a creek, uncovered the mineral wealth of Colorado; a runaway donkey, scrambling up a steep mountain in Idaho, kicked the lid off one of the richest mines in the world; a combative male sheep butted a school teacher off a fence in California and the Big Ram Oil Company resulted.

Above the desk of the president of the Big Ram Company hung an enlarged photograph of Jed Seldon's truculent ram. The billboards of Los Angeles were plastered with the same likeness advertising the golden stories of the Colorado chicken, the Idaho donkey, and the California ram. The argument was subtle and extremely powerful.

Paul Morrow noted the argument subconsciously; he could not help noting it in some fashion, for the street cars, signboards, and newspapers flaunted the Big Ram in his face. It did not appeal to him, however. He had four days in which to cover his Los Angeles territory, then to strike south at San Diego and uncover new territory, and he was busy. Also, he had not heard from Julietta for ten days, and was worried. Beyond considering that the Big Ram possessed an advertising genius, he passed the subject by.

On his second day in the city, Morrow received a brief note stating that the president of the Big Ram Company wished to see him on a matter of importance. He chuckled and tossed the note into his waste basket.

"An advertising genius, all right!" was his amused comment. "But they can't sell me stock. I'll die poor some other way. 'Pon my soul, why doesn't Julietta write?"

He called up Mrs. Drake, but she had not heard from Julietta either. The next morning, Morrow received a special delivery letter. He read it several times, wondering that it bore no personal signature; yet it was not a form letter.

DEAR MR. MORROW: Please call at our office this morning without fail. We do not desire to sell you any stock, but if you fail to pay us the courtesy of a call it will be to your extreme disadvantage.

Very truly yours,  
BIG RAM OIL COMPANY.

Morrow gasped.

"'Pon my soul—how did they guess my very idea about selling me stock? I never mentioned this wildcat company to a soul—except Mrs. Drake. If they don't want to sell me stock, probably they want me to sell stock. Nothing doing! No get-rich-fast stuff for this baby!"

He grumbled, but at ten that morning he stepped from the elevator at the eighth floor of the Union Trust Building. Morrow found himself confronted by a curly-horned ram's head painted on the door directly opposite, with the legend of the firm's name. He entered, and a girl seated before a typewriter looked up inquiringly.

"I was asked to call," he explained, "to see the president of your company. My name is Morrow."

"Oh, Mr. Morrow!" The stenographer jumped up and unclasped the swing gate. "Go right in; please. The president is not busy just now."

"Queer kind of president, then," commented Morrow to himself. He walked toward a ground-glass door bearing the word "President," and knocked.

"Come in!"

The voice was clear, cool, vibrant. Morrow started, gurgled incoherently, and accepted the invitation.

"You!" The word broke from his lips at sight of Julietta seated at a desk before him, chic, charming, inscrutable. She leaped up to meet him, wild delight in her face.

"Uncle Paul!"

"You!" he cried again, grasping her outstretched hands and feasting his eyes upon her.

"Yes I. Exactly!" Julietta laughed happily, her cheeks rosy under his intent gaze.

"'Pon my soul!" Morrow plumped into a chair, breathing hard, as Julietta quietly closed the door. "Why, I thought

you were teaching school up near Bakersville, girl?"

"I resigned. One can't be in two places at once, you know."

"Oh! Then you're working here?" Julietta vouchsafed her brief little nod, her eyes dancing.

"Um!" Morrow stared around the office. "Why didn't you have a word with me first, my dear girl? I don't like your working for these wildcat promoters."

"Please don't call me names, Uncle Paul."

"Call you names—what the dickens do you mean?" He frowned, perplexed, as her clear laugh rang out.

"Why, I'm the school teacher whom the big ram butted off the fence! I'm the wildcat promoter just referred to. My dear Uncle Paul, the Big Ram Company is me, me—J. Dare, Esquire!"

Morrow drew a deep breath, staring at her.

"Why, 'pon my blessed soul, you're in earnest! Of course you are. What—what on earth will you do next?"

"Goodness knows," she responded seriously. "Things that are worth happening seem to happen all of a sudden, Uncle Paul. Here's the way—" She threw upon the screen the vivid drama of the Big Ram Company.

"Three experts agreed that it was a sure thing, you see," she concluded. "So I came down here, got hold of your old lawyer, and started to sell stock."

"Oh, I might have known it was your work!" he ejaculated admiringly. "But, girl, why on earth didn't you slip me a hint?"

"I was afraid," she colored. "Afraid! Why, in the name of heaven?"

"Well, if I dragged you into another failure I'd never have forgiven myself. And I was really dreadfully afraid that you'd kick up an awful fuss and pooh-pooh the whole thing."

Morrow's head fell.

"I'm afraid I would have done just that," he admitted slowly. "But see here! Suppose you don't find oil? So far as I remember your ads, you've sold stock on prospects, and prospects aren't very tangible things."

"I don't care to draw on my worry account," she answered cheerfully. "It's foolish to get into a turmoil over the future."

"But it's all a gamble," he insisted. "You'd feel mighty sick if all these people who have mobbed the curb market for your stock should turn on you and raise an almighty holler of 'fraud.' And those cheap gamblers are the very ones who'd do it."

**J**ULIETTA cocked her head on one side and surveyed him demurely.

"No, my dear Uncle Paul, they won't. Every blessed one of them bought stock knowing the risk, and every blessed one of them signed a paper admitting that fact. Every share was sold from this office, originally. No one can turn on us and cry 'fraud.' And don't you think it's been a pretty good campaign—really, now? As salesman to president?"

Morrow chuckled.

"Girl, you're a world-beater!" he averred solemnly. "It's been so perfectly managed that I, from the outside, took you for a wildcat concern waiting to unload and clear out."

"I can unload in five minutes," Julietta fingered a telegram as she held his gaze upon hers, gravely earnest. "The stock sold on the curb for fifty cents at first; now it's in demand at five dollars—on prospects merely—and no stock to be had at that offer. By to-morrow morning the price will jump to fifty dollars—perhaps double that."

Morrow looked hard at her, and his ruddy cheeks went a trifle white.

"Julietta," he said quietly, "I know you're straight; I'll bank on you till—till Hades freezes over, but for heaven's sake go slow on this thing! Who's advertising you?"

"No one." Into the girl's blue eyes crept tenderness—a merry tenderness.

"You can't jump this stock to fifty dollars and do it legitimately."

"I'll bet you ten dollars here and now that I can."

Morrow reached into his pocket and pulled out a gold piece. As he threw it on her desk his hand was trembling.

"Prove it," he said, his voice hoarse. "You're getting into a hole, all right; but your Uncle Paul has turned up in time, thank the Lord! Prove it."

Julietta reached for the gold piece and dropped it into a drawer.

"I'll keep that for a memory piece, Uncle Paul. Read this. The drillers struck a gusher at nine this morning."

He took the telegram from her hand, read it, and looked up for a long moment silent. Then with a sudden bound he gained his feet, and his hands caught hers.

"Oh, my girl—my girl!" he cried huskily. "I'm so glad—for your sake! I'm glad!"

He turned away from her and looked out through the window. He was conscious that age, failure, defeat, had come upon him almost unseen, and for a moment he did not feel the hand that clutched at his.

"Uncle Paul," Julietta's voice brought him around facing her again, "have you a thousand dollars free?"

He nodded vaguely.

"Well, I've reserved ten thousand shares for you—at ten cents."

He started. Again pallor crept into his face.

"No."

"What?" Julietta's eyes widened.

"No." In his gaze was finality, and she read his clear mind like a book.

Julietta sat down, knowing that the crucial moment was upon her. She had foreseen it long since, and now she faced it calmly, unafraid.

"Sit down, please. Now, Uncle Paul, do you remember that night at the Alexandria—my birthday—when you gave me that lovely pearl necklace?"

He nodded and his eyes, a trifle mistily, sought the pearl at her throat.

"I told you that night the kind of future I had planned for myself, and you were terribly cut up about it. You said the business world was no place for a woman."

Morrow smiled grimly.

"You've knocked my sayings into a cocked hat, girl."

"I'm not so sure." She eyed him gravely. "Uncle Paul, would it please you very, very much if I gave up all this business whirl and lived like other girls—society and so on?"

"My dear, if I could make you the girl I've dreamed, instead of the business woman I see before me, however charming and beautiful you may be—why, I'd pretty near do anything on earth!"

Julietta's heart warmed to his words, and to the big soul behind them.

"I'll resign the presidency of this company," she returned quietly, "provided you will take it in my place. Will you do that for me?"

Morrow's eyes widened, then narrowed.

"You mean it? Yes. I will."

"Good!" Julietta studied the determination of his face for a moment, then added demurely, "Of course, you can't do it unless you're a stockholder in the company. The by-laws rule that the president of the company must hold not less than ten thousand shares."

Morrow's face turned a brick-red.

"You will help me Uncle Paul?" she said sweetly. "Of course, you promised—"

"You—you little minx!" he broke out half angrily. "Am I always to be beaten by you? Shall I never have my way?"

"Always—from now on!" She laughed, but he did not miss the double entente of that reply. "Now, please! I'll ride around in a blue limousine and go to matinées and never, never dictate a letter or sit in an office chair again, cross my heart! Will you do it?"

"I suppose—I must."

"Oh, Uncle Paul, you're so good to me—always!" The delighted girl sprang to her feet, her voice rich and joyous.

The president-to-be of the Big Ram Company patted her hand tenderly.

"Some day," he warned solemnly, a twinkle in his eyes, "some day, missie, I'll have my way with you—see if I don't!"

But Julietta hardly heard him. She sat suddenly dreamy-eyed, wondering if a certain person named Clay Thorpe would be glad too. For some reason her heart throbbed under the thought, and again she heard that boyish, resolute voice, "—and then I'm going to marry you, Julietta—"

\* \*

**I**N THE basket that Tony held up for Julietta's inspection were only a few bunches of the cool white grapes, but they were directly responsible for many things.

"Nice grape—da muscat!" smiled Tony. "Taste one, lady!"

"Yes, I know muscats," echoed Julietta absently.

A chaotic whirl of memories had engulfed her. She was back in the San Joaquin, a child once more. She saw again the grape-laden trays, long rows upon rows of them, lying between the green vines.

"Da lady will buy da nice grape?"

The voice of Tony brought Julietta back from the past. She started, and fumbling in her bag produced a coin. The basket of muscats in her hand, she turned back to the limousine. Her face was so white that the chauffeur gave her a startled glance. She settled back in the luxurious seat, memories flooding in upon her like an overwhelming tide. She was completely and terribly homesick—not for the first time, but now for the first time the feeling gripped her that she could go back. The cool white grapes had awakened in her an intense, almost frantic craving for the San Joaquin.

[CONTINUED IN NEXT ISSUE]



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## Children's Corner

### An Autumn Landscape

By Grace Noll Crowell

**B**RILLIANT scarlet and crimson stain,  
And splashes of yellow gold;  
Warm brown stubble and ripened grain;  
The waysides seared and old;  
A dazzle of green where the aftermath  
Breathes a tale long told.

Gray where the haze hangs over the west,  
Blue where the asters grow;  
Purple the lights on a hill's far crest,  
The shadows mauve below;  
Blackbirds wheeling above the corn,  
Silent, serenely, slow.

Lights and shadows and sparkle of wine—  
Somber color and gay;

Rich and warm in the late sunshine,  
Chill where the shadows play;  
Thus God hangs His masterpiece  
Over the world to-day.

### Timid-Heart Posed Alone

By F. E. Brimmer

"**BRISKY BEAVER**," called out Timid-heart, "why don't you come with me and have your picture taken?"

"My picture taken!" grunted Brisky Beaver, as he patted here and plastered mud there upon the dam he was building. "Huh! Can't you see I am as busy as can be getting this dam ready for winter?"

"Winter!" whistled Timid-heart. "Why, you make me more tired than the day Old Mike's dog chased me for more than fifty miles and I only saved myself from the ugly brute by swimming across Big Moose Lake. Winter, indeed! Here it is only September and you are building your old dam for winter."

"But," protested Brisky Beaver, while he pushed the last lump of mud off his trowel of a tail and plastered over a tiny crack in the wall of logs and brush, "I have to make the water deep very early because I must cut hundreds of small birch trees and stick them in the mud under the deep pool where they will be ready for my winter dinners."

"Ba-a-ah!" bleated Timid-heart. "That isn't the reason at all why you



Timid-Heart posed nicely

don't want your picture taken. You are ashamed of that ugly tail!"

For a second Brisky Beaver looked straight at Timid-heart, his little black eyes like two balls of fire in the moonlight, then, suddenly slapping his tail on the surface of the water with such a startling crack that Timid-heart leaped three feet straight into the air, he dived to the depths of his pool.

So frightened was Timid-heart by the crack of Brisky Beaver's flat tail when it struck the water that she bounded skip! skip! skip! away through the moonbeams that sifted through the leaves, flying over logs, dodging moss-covered rocks, and dashing through the thick alder bushes. She could not forget the terrible time when a loud crack had left her mate a bleeding victim to a hunter's bullet.

Timid-heart forgot her fear when she saw Silly Porcupine frantically gnawing upon a log. "Evening, Silly Porcupine," greeted Timid-heart. "Come

with me and we will have our pictures taken."

"My picture taken!" squalled Silly Porcupine. "Oh, dear, don't bother me! Can't you see I am busy?"

"What are you doing?" asked Timid-heart, coming closer to smell of the log upon which Silly Porcupine was at work.

"Can't you see there's been salt spilled upon this nice log?" retorted Silly Porcupine. "I won't budge an inch with you to have a dozen pictures taken when I can find a log that has a speck of salt to eat out of it."

"I smell man-scent on the log!" blustered Timid-heart, springing backward in horror. "A wicked hunter ate his lunch on that dirty log last fall. But I know the true reason why you don't want your picture taken: you are ashamed because your fur is just a lot of ugly spikes."

Silly Porcupine drew up his body rigidly and suddenly shook his quills together with a rattling clank! clank! clank! Away Timid-heart raced in hurried fright. That clanking noise sounded just like the chains which she had heard the hunters fasten about the neck of her noble mate to drag his dead body away.

When she reached the head of Big Moose Lake, Timid-heart stopped to rest and get her breath. Near-by she spied the glistening black coat of Frisky Otter as he clambered up the steep bank out of the water. Before she could speak to Frisky Otter he took a quick, short run and slid down the steep clay bank just as a boy slides down-hill on his sled. When Frisky Otter again climbed up for another slide, Timid-heart said:

"Stop your frolic and come with me to have your picture taken, Frisky Otter."

"Where do you expect to have your picture taken?" inquired Frisky Otter, winking at the jolly moon.

"Why, don't you know?" asked Timid-heart. "There's a camp of the nicest man-folks at the foot of the lake. There's a sweet-smelling man and his mate and a man-child. They don't smell of blood and guns a bit. They have a camera and are glad to photograph every one of us wood's-folk. Come along with me!"

Frisky Otter made up a funny face at Timid-heart and quickly slid ker-slap! down his slide in the slippery bank—ker-slush! into the black water.

So Timid-heart had to have her picture taken all alone. She posed ever so nicely, but when the flashlight powder exploded, raced away, blinded a little by the bright light—and never even came back to ask the photographer how her picture turned out.

### Cultivating Faith

By Elizabeth W. F. Jackson

**Y**OU will not be transformed into a perfect being all at once, because sudden changes are contrary to Nature's law. With most of us faults are so imbedded into our characters that it will take a long, hard pull to get them out.

It is not easy to reform the habits of a lifetime, but have you ever found any worth-while thing that is easy? I have not.

Try taking five minutes a day for character-building. Take it at the same time each day, if possible, and be sure to go where you can be alone. Where does not matter at all—up in the attic or down behind the woodpile—anywhere, if you can only be quiet.

Try to leave behind, for this little time, all your cares and anxieties. Try to take with you your faith in Almighty God, and faith in yourself, the child of God. That means you, you just as much as the greatest man in the land.

This is your first lesson: Faith—"the substance of things hoped for." The more you cultivate faith, the more successful you will be in getting the thing you want, whether it is a perfectly rounded character or any other good thing.

### Friday Afternoon Essay

The Cow

By Earl H. Emmons

**T**HE cow is a sorrowful animal, with a face which would stop an eight-day clock, a shape like a pile of kindling wood, and a general disposition and ambition like a clam.

The cow has a deep, inherited yearning to be the prize-winner in the fancy stock show at some county fair, and parade up and down the track with a blue ribbon tied to her ear; but if she cannot do this she compromises by marching back and forth through the garden, doing quadrilles in the potato patch and cake-walking in the cornfield; and a pleasant feature about the cow is that from her serene facial expression one never can tell whether she is going

to fall over in your lap and go to sleep, or rise up and kick you into the distant horizon.

The principal grief of the cow is the pasture fence, and all her life she has an insane desire to be on the other side. She does not know why she feels this way; but, whether inside or out, the cow has that wild desire to climb a post and see what is on the opposite side of the fence, which habit fills her owner with surprise and delight and terrible cuss words and things.

The cow has a delightful habit of giving birth to her offspring in the most unheard-of and astonishing places imaginable, after which she goes away to see about something and forgets where she left the child, and the sweet, mellow tone of voice she uses in telling about it at three o'clock in the morning makes a person want to crawl under the barn and die.

There are two kinds of cow, raw and cooked, and the former spends most of



She argues with a freight train

her time standing around on one leg, with her eyes shut, chewing something with a free and easy swinging motion like a hotel waitress masticating gum.

By nature the cow is sad and mournful, and appears to be suffering from some great wrong, and she likes to drag her tail through mud and things and then slap the milkmaid in the face with it, and this is about all the pleasure the cow gets out of life.

When the cow has outlived her general usefulness and reaches that stage where she is worth a dollar and twenty cents she usually climbs a fence, gets on a railroad track, and has an argument with a freight train, after which it is discovered that she was the prize heifer of the herd, and her value goes to about two hundred and fifty dollars, and sometimes the railroad company has to pay it.

Among cows there are common cows, cow lots, cow catchers, cowards, cowbells, and cowslips.

### New Puzzles

#### The Puzzling Household

The census man meets many knotty problems in the course of the day's travel. This puzzle illustrates one of those moments when he must work his wits as well as his lead pencil:

"How many people live in this house?" inquired the man. "I don't live here," replied the boy, "but I know that there are two fathers and their sons, and two mothers and their daughters, also there are three married couples who have no children."

Can you tell the census man what is the fewest number that might live in that house?

#### The Landlady's Puzzle

A successful landlady explains that were she not able to solve the various little practical puzzles that arise almost hourly in the life of a busy boarding-house, the accumulative profits that go to establish a balance on the right side of the ledger would never materialize.

She said that she had three lodgers—Brown, Smith, and Jones—and by keeping careful tabs she learned just how much her methodical lodgers burned each night.

Brown burned two inches, Smith three inches, and Jones five inches. The whole candles were twelve inches long, and she successfully worked out the problem of determining the smallest number of whole candles that she could manipulate so as to serve them night after night, giving each lodger a candle for his requirements, and have her stock completely burn out the last night without waste.

How many whole candles did she require, and how did she serve them out each night?

### Good-Health Talks

By David E. Spahr

**I**F YOUR residence is heated by natural or artificial gas during the coming winter, look carefully after proper ventilation, leaky pipes, or faulty rubber tubing and loose connections, or you may suffer from chronic carbon-monoxide poisoning.

The symptoms of the disease are headaches, pallor, anemia, derangement of the digestive organs, a slow pulse, mental dullness, fatigue after slight exertion, failing memory, palpitation of the heart, and difficulty in breathing.

This means that you must look after defective pipes or tubing and all connections, and to secure proper ventilation at all times in your sleeping apartments. A marked difference will be noted in the symptoms when gas is admitted into the air rapidly or slowly. In the first condition, the patient becomes rapidly unconscious and recovers rapidly when removed to fresh air. When admitted slowly the symptoms are much worse, consisting of headache and weakness, and they are remarkably persistent. Cases of poisoning have occurred where the leak has been in an adjoining room or in a cellar or the room beneath. Persons are more susceptible to the fumes when asleep at night.

It should be known that poisonous gases may diffuse themselves through walls, soil, and partitions. Now, as winter is approaching, we should especially protect our sleeping apartments by excluding gas fumes and admitting pure air.

#### Stammering

*How can I break myself of stammering? I am a mouth breather, and think I have adenoids. I have always been very bashful. Words beginning with B or M are the most difficult to speak.*  
J. H., Kansas.

**W**HEN stammering is caused by adenoid growths, irregular teeth, cleft palate, or tongue-tie, it is easily remedied. But if the trouble has its origin in the nerve centers it is quite difficult to cure. Have your throat carefully examined and treated, and then take some systematic training and you will overcome it.

#### If Someone Faints

*My youngest sister occasionally faints. Needless to say, it frightens all of us, but we apply cold cloths to her head, and in a minute she has regained consciousness. We have consulted our family physician, but he says he doesn't know the cause. Does fainting indicate heart trouble? What causes a person to faint? Will you please tell me the best thing to be done in case someone does faint?*  
H. K. D., Montana.

**S**UDDEN emotion, fear, or shock may cause anemia of the brain sufficient to produce fainting or loss of consciousness. A severe hemorrhage or obstruction to the blood vessels would do the same. Fainting does not indicate heart trouble.

In ordinary syncope, the recumbent posture may alone be sufficient to restore the patient. Smelling salts, ammonia, or sponging of the face with cold water will be proper procedure.

#### Milk Sickness

*How is milk sickness contracted? We are milk drinkers, and have heard of the disease only recently.*  
Mrs. J. F. H., New Mexico.

**M**ILK sickness is a disease usually found west of the Allegheny Mountains and in North Carolina. It is supposed to be communicated to man from milk, butter, and the meat of animals suffering with "trembles." The early symptoms resemble those of typhoid fever. (Headache, languor, thirst, and, after a few days, fever, nausea, vomiting, gastralgia with constipation, take place. Then, in extreme cases, nervousness, convulsions, and death intervene.) The mortality of this disease was quite large when the country was new. Under proper treatment cases usually recover. Cows suffering from trembles should be rigidly quarantined at once. This disease is seldom encountered at this date, and many physicians in active practice have never seen a case.

#### For a Young Baby

*My baby, four months old, has been constipated all her life. She is fat and quite healthy, and lives out of doors a great deal. What can I do for her?*  
Mrs. G. W. F., Michigan.

**G**IVE the baby plenty of water to drink each day, also some orange juice. Continue to massage her bowels. Also give her a teaspoonful of pure sweet cream daily, and note the results.



# We are at Your Service

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Address the Editorial Department for any information you may desire on any or all of these subjects: Live Stock, Dairy Methods, Poultry-Raising, Crops and Soils, Seeds and Nursery Stock, Market Packages, Automobiles, Garden and Orchard, Farm Machinery, Household Equipment, Insect Pests, Handy Devices, Recipes, Good Books, and Health.

Address the Circulation Department if you wish to know about Premiums, Agencies, Subscriptions, or Clubbing Offers. Address the Pattern Department if you have questions concerning Patterns and Fashions. Address the Business Manager if you desire information about Advertising Rates, or Reliability of Business Concerns.

If you are in doubt about which department to write, address the Editorial Department and your inquiry will be cared for properly.

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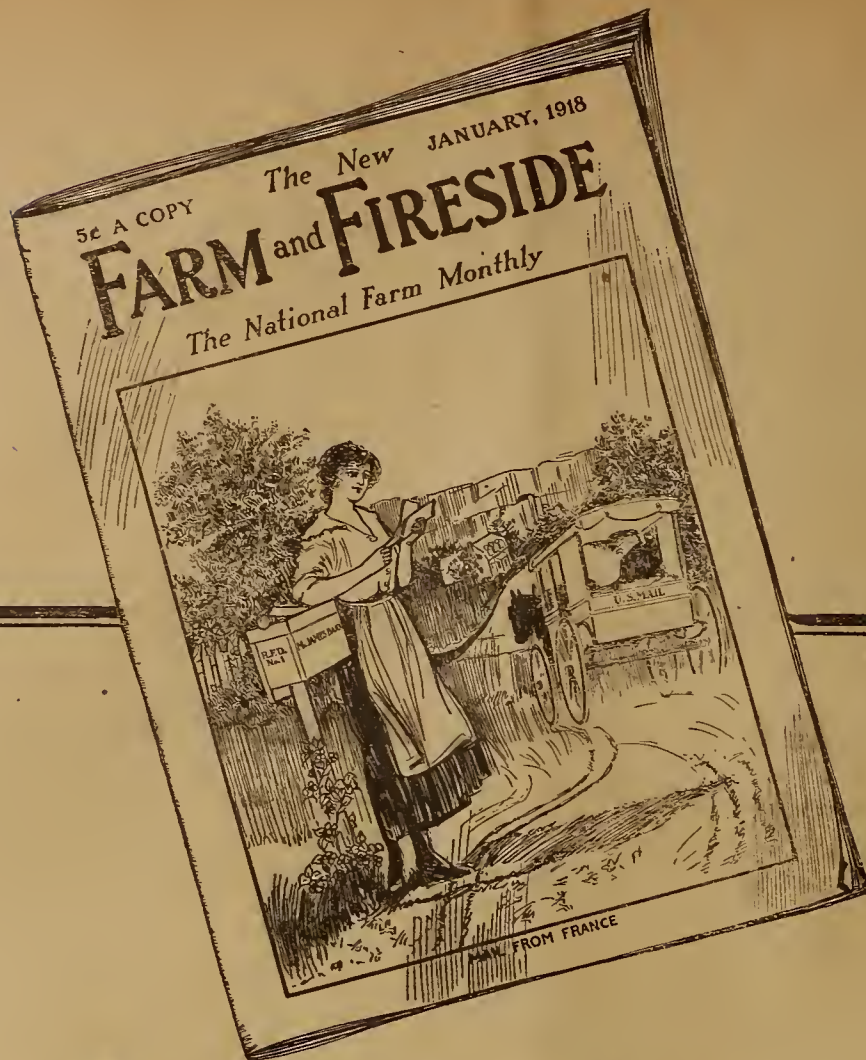
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In this age of progress, old ways of doing things must give place to the new. The old ways were good in their day and served their purpose admirably. Many of us perhaps see them go into the discard with a sigh of regret, but we who have striven hard to make the *old* FARM AND FIRESIDE a paper which rendered a real service to its legions of friends, are amply repaid in knowing that we succeeded in our purpose. This is abundantly testified to by the thousands of commendatory letters in our files, and in the more than 600,000 readers who have consistently renewed their subscriptions from year to year.

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course. To be just and honest to all, yet not afraid to fight for things which seem to us to make for better living conditions, better education, better homes, better boys and girls, and, consequently, better men and women.

That is the platform of the new FARM AND FIRESIDE, folks. We hope it rings true. We ask you to accept it with the same sincerity with which it is written. We ask for the new paper your continued confidence and support in the ambitious program we have laid out for ourselves and our friends. Don't miss the first issue of the new FARM AND FIRESIDE (the January number). It is going to be the best we ever sent out. If your subscription expires before the first of the year, send us your renewal now.

*The Editor*

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# FARM and FIRESIDE

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No. 4

## Spreading Smokehouse Wisdom Missouri Meat Shows Teach Farmers Meat-Curing Secrets

By W. L. NELSON.

**A** FEW years ago an inquiry developed the fact that while the average Missouri farm family of five and six-tenths persons consumed annually 884 pounds of pork, the average number of hogs butchered was but slightly more than four per family, and the average dressed weight of the hogs 162 pounds. The next year the Missouri Farmers' Ham and Bacon Show, since held annually under the auspices of the Missouri State Board of Agriculture, was established.

As might naturally be inferred from the preceding paragraph, the object of the show is to interest a large number of farmers in the making of more and better meat, at least a sufficient supply for home consumption. It is a well-known fact that in every country community there are a few men whose tables have become famous for the fine flavor of the meat served the guests whose good fortune it is to sit about the family board. This fact is one that is familiar to every country-reared man or woman. Generally speaking, though, these makers of good meat have not been missionaries, eager to instruct their neighbors in the mysteries of meat-making.

How to secure a wider dissemination of the homely truths that have to do with the proper curing of meat on the farm, how to scatter the smokehouse secrets, and how to create a real interest on the part of the farmer himself were the problems to be solved. The answer, we believed, was to be found in a state-conducted ham and bacon show. So five years ago, without rule of example to go by, Missouri made the start in a most meager manner.

The first show resulted in a somewhat motley collection of meat. There were hams of the proverbial 57 varieties of trim. While much of the meat was of excellent flavor, the appearance was such as to detract from it. Much of the bacon was positively bad; in fact, it was not bacon at all, but salt pork, somewhat thick, yellow, and rancid. The pleasing feature, however, and one that bespoke progress, was that despite the many poor entries there were a few of outstanding and very excellent quality. Fortunately, too, the farmers who had entered this meat were on hand, ready and even eager to tell others just how the work had been done. No recipes were regarded as secret.

The second show marked a long step forward. The entries had not only greatly increased in numbers, but there was also a decided gain in quality. Plainly, the showroom would in time fix a standard and in a way establish an approved trim for hams. By the third year interest had increased sufficiently to justify classifications for shoulders and sausage. Since then the show has grown, both in quantity and quality, and the meat entries in the various classes are almost as uniform as are the entries in long-established corn shows or apple exhibits.

The fifth annual Missouri Farmers' Ham and Bacon Show was held in connection with Farmers' Week, January 1st to 5th, and was decidedly the best that has yet taken place. Among the entries there were only two pieces of meat that were not up to a high standard, and even these would have been on the approved list in the first show.

The judges of the show were: President H. J. Waters, Kansas State Agricultural College; Mrs. Fannie M. Klinck, Iowa; and W. C. Hutchison, Missouri. All of these had served in former shows,



The first-prize ham, showing the right proportions of fat and lean, which is considered second in importance to flavor only

and all have given much study and thought to the making of a palatable meat product on the farm. The committee not only approved the work of the show, but also made certain recommendations as to future exhibitions. The exhibitors were congratulated on the high quality of hams, bacon, and sausage entered for competition, and the hams were especially commended for their ripeness and superior flavor. "The sausage," says the report of the judges, "was of excellent quality, and many of the exhibits were displayed in packages which would be very attractive in the best city markets."

### Many Prefer Hams Dry-Cured

**A**S a means of increasing the educational value of the show and of attracting more attention to the economic importance of curing meats on the farm, the committee suggested the advisability of increasing the number of prizes offered on hams from three to ten, and that the lowest prize be not less than the approximate market value of a good ham. It was

further suggested that the Board of Agriculture, in charge of the show, have the right to use for the purposes of educational demonstration any ham entered for a premium. It was further proposed that following the award of prizes a daily demonstration be given, when parts of selected hams could be cooked and small portions served to such persons as might manifest sufficient interest in the farm-curing of meats to enroll in a special course in this subject. In this way the committee believes the quality of the meat produced by the different methods of curing could be brought clearly to the attention of all interested in the subject. Furthermore, it could not fail greatly to improve the quality of home-cured meats.

To further add to the educational value of the Missouri meat show, it is proposed next year to have each entry scored and the results of the score attached to each specimen, so that the exhibitor and the public may know the opinion of the judges, and thus be able to view more intelligently the products on display.

The proposed score card for country-cured hams is as follows:

Size and form: Weight (12 to 18 pounds), 5; trim, 10; symmetry, 5. Total, 20. Cure and quality: Flavor, 50; color and texture, 5; proportion of fat to lean, 20; marbling, 5. Total, 80. Grand total, 100.

The rules of the Missouri meat show require that hams entered must be not less than ten months old; that is, they must be thoroughly cured and have acquired that much-to-be-desired ripeness and flavor which only age can produce.

It has been found that practically all of the hams entered in this farmers' ham and bacon show have been preserved by the dry-cure rather than the brine method. This dry cure is usually made after the following receipt: For each 1,000 pounds of meat use 40 pounds of high-grade salt, 10 pounds of New Orleans sugar, 4 pounds of black pepper, ½ pound of cayenne pepper, 1½ pounds of saltpeter. At the present high price of saltpeter many are omitting this entirely. In most cases the meat suffers no loss from the omission, except that the color may not be quite so bright. A rule in general use is to allow the hams to remain in salt one and one-half days for each pound weight. This would be twenty-one days for a 14-pound ham. This rule, however, like all others, must be interpreted with reason.

The most common mistake made in the curing of bacon is that it is allowed to remain in salt too long. A farmer who has several years taken the first prize on his bacon in this show, and who has built up a profitable business, killing an average of 200 hogs each season, recommends that bacon be left in salt from four to eight days. Many farmers make the mistake of leaving it in almost as many weeks. The result is a piece of meat so thoroughly saturated with salt that it is scarcely fit to eat.

Plainly, the Missouri meat show, as a show, has been a success. Not only are more farmers curing a sufficient supply of meat for their own use, but many are also developing a profitable from-country-to-customer trade. With the coming of the parcel post, an ever-increasing number of farmers are building up a satisfactory city trade, selling their products under the farm name. Principal among these products is meat—fresh meats in winter and cured meats during the summer season. The farmers are now making more than enough meat for their own use.



The judges commended the high quality of the exhibits, particularly praising the flavor of the hams. The standard of home-cured meats exhibited has greatly improved during the past five years



# A Year With My Turkeys

## How I Insure Profit by Reducing Losses to Minimum

By ANNETTE ADAMS

**T**HERE is always a brisk demand for our special holiday crop of well-grown, well-finished turkeys. Even though feed prices now seem exorbitantly high, this year is no exception, for roast turkey at least once a year is an American institution even if the larder has to run low afterward to restore the exchequer.

At the present time a good turkey sells for as much as the former cost of 100 pounds of beef or pork, and many a speculative thought in the mind of those wanting additional side-line income is considering the turkey as a prospect. I believe I have a right to talk turkey for the information of those having a leaning turkeyward, and also for those who consider turkey-raising a gamble pure and simple.

For a half dozen years I have been in the thick of this so-called gamble, and find it more of a "turkey trot" than a gamble, for by paying the price of intelligent selection of breeding stock and correct handling I have raised a nice flock of fancy holiday gobblers and hens with only one disastrous failure.

One of the most serious mistakes made by the average turkey raiser is delaying to secure his breeding stock until spring. Autumn and, better yet, early in the fall is none too soon. It is then possible to select breeding turkey stock when the birds are on range and in the pink of health. I believe it safe to say that half the breeding turkeys kept are more or less out of condition when the breeding season arrives. It is a mistake to think turkeys—because of their wild ancestry—can stand all sorts of weather and neglect and come through it vigorous and healthy. They need shelter, proper feeding, clean surroundings, and comfort. Baby turkeys are tender enough at best, and if one wants to hatch and raise a good per cent from the eggs set, he must start them right by having vigorous, healthy parent birds.

We have had at times a little trouble with both cholera and roup among our breeding turkeys, but were able to check both diseases before the trouble became serious. For cholera we soak wheat in a rather strong infusion of pokeweed in water, and feed twice a day until the turkeys are well. For roup we use pure linseed oil, bathing the head and eyes with it and pouring a spoonful of it down the throat and up in the roof of the mouth, making sure that every spot affected is saturated well with it. Taken in time, we have found this an almost sure cure for the roup. I have found a good preventive remedy for many poultry diseases to be a few drops of turpentine for each bird every week fed in a warm mash.

With the coming of cold weather we always transfer our flock from the outdoor roost to an open-front roosting house. Instead of getting down from their perches cold and miserable, our breeding turkeys are full of life and vigor, and eager for a good day's range whenever the snow is not too deep. Special attention during stormy periods keeps them from becoming too restless until they can get out on the range again. Here in Kentucky, turkeys can generally get green food in the fields except during bad storms.

There is another important factor to which I must give full credit—that is, to the hatching hovels and yards we use. I would not think now of undertaking to raise turkeys without them. Ours are built mostly of inexpensive left-over lumber, so the cost was hardly to be considered. Certainly the expense is not to be compared to the utility of them. The hovels were built on sunny, well-drained ground. The building is a low shed 32 feet long, 2½ feet wide, 3 feet high in front and 2½ in the back, divided by partitions into six compartments—one for each turkey hen. The walls and partitions are boarded up tight and roofed to shed rain. In front of each house a door closes an opening 28 inches high and 15 inches wide, and opens into a yard 8 feet long, 5 feet wide, and 6 feet high. The outside fence enclosing the yards is tightly boarded 15 inches from the ground and above that height is slatted two inches apart, and wire netting covers the top. I like the slats better than the netting for fencing the yards, as the slats protect from the sun and wind when too strong and still furnish plenty of ventilation.

Proper care of the eggs we consider one of the little things that are very important. In the spring,

near laying time, nests are built in the hovels to induce the hens to lay in them. But all eggs are gathered daily, wherever laid, to prevent their being stolen, broken, or spoiled by rain or sun. The date is written on one side of each egg in pencil, and they are kept in a cool closet with cotton batting between the layers of eggs. The mark on one side is a convenient check to make sure all are turned. The date also enables us to set the oldest eggs as fast as the hens are ready to sit, so none are kept too long.

Large, rather flat nests of soft hay are made in the hovels, and a shallow bottomless box is placed around each nest to keep the eggs in place. Even the hens which steal their nests outside never refuse to accept these nests. All of the sitting turkeys are shut in every night to safeguard against foxes or other enemies. During hatching time we look under the hens twice a day to see if any empty shells have

of water, and a board kept clean for the mash are kept in each yard. The dishes are cheap and easily cleaned, and there is no danger of the little poults drowning in them. Dishes and boards are washed each morning, the earthen floors of the hovels are cleaned, and fresh soil is scattered over the yards. A turkey cannot be healthy unless its surroundings are clean.

We do not turn them out on the range until the poults are strong enough to stand traveling through the grass, but even when a week or two old they should have a chance to range a few hours during the middle of every fine day. But during rainy weather, until the poults are feathered, the yards are such a help. Without the yards, in stormy weather it is constant running and worrying to keep the young poults safe from getting wet, which is about sure death until they are feathered.

When too large to roost in the hovels, we provide a roofed roost enclosed with poultry netting, where the entire flock is safe from storms, dogs, foxes, and the like.

Someone is sure to remark at about this stage of my story, "Your plan of hatching, feeding, and rearing may be sensible and practicable, but what about the poor hatches and later losses and per cent of turkeys raised from a given number hatched, cost of rearing turkeys and keeping the breeders under present feed cost conditions?" These are the questions the turkey raiser is apt to dodge or hedge about with "ifs."

One year with another, we are not able to get quite as good hatches as from chickens, but our average is not far from a 75 per cent hatch from all eggs set. But by our method as described the losses by accident are small, and during the half-dozen years of our turkey-raising experience the losses from disease—with the exception of one year—have been hardly worth considering. That one unfortunate year bowel trouble, liver disease, cholera or black head,—whichever it was,—or a combination of diseases cut a big swath in our flock. We put the blame on new breeding stock introduced in the spring, which must have been tainted or weakened with previous disease.

As to feeding cost: Where there is plenty of range in orchards, woodland, pasture, and stubble fields, the expense of raising young turkeys to marketable age is less than for raising chickens to laying age. Overfeeding of indigestible feeds for the first two months causes more deaths than any other cause, except chilling, accidents, and unsanitary housing.

Under conditions as described a flock of 50 turkeys, ready for holiday trade, average to consume not far from a half-ton of grain in addition to what they glean in the stubble fields. The breeding stock requires generous feeding during the winter when feed on the range is scarce, and from two to three bushels of mixed grain should be estimated for each breeding turkey kept through the year.

Before concluding this turkey talk I want to put one question to every woman or young person who contemplates starting into the turkey business: "Are you going to raise your flock, or will your neighbors be compelled to do it?"

If you are so situated that you cannot keep them within the bounds of your own place and are not willing to keep close tab on them each and every day, don't tackle the turkey business or you will soon be counted a common nuisance throughout your neighborhood, and rightly so.

To sum up, the turkey is the very best gleaner of stubble fields and the most persistent and expert hunter of grasshoppers and all active field insects of any of our domestic fowls, the guinea excepted, and many pounds of the highest priced meat can be produced from these waste feeds on every good-sized farm. Under present conditions it seems practicable for owners of adjoining farms to co-operate in raising turkeys by marking their poults and combining their flocks and then make use of some method of turkey-herding by the children of the different families thus co-operating.

By following out some plan of turkey-herding, there could be added to our food supply an enormous amount of the finest of all poultry meat, which would be largely clear gain and would thus help to spoil the Kaiser's smile.

EW



Turkeys fatten rapidly "following" hogs and cattle, but such high living will injure birds intended for breeding purposes

capped over the eggs, which would prevent the poults breaking through. When the poults are hatched, the nest-enclosing box is removed, and no disturbance of the hen and brood is necessary until the poults are stronger.

### What to Feed the Poults

**T**O AVOID bowel trouble, we find the poults must not be fed for thirty-six hours after hatching. Either yeast bread or corn bread baked thoroughly, made with buttermilk, soda, an egg or two, and a little salt, is the feed given the poults. This bread mash is sprinkled with black pepper and moistened with milk. Every day finely minced tender tops of onions are added and a handful of lettuce is chopped and put in each yard. We bake bread for them until they are large enough to eat safely wheat and cracked corn. We never feed dough or uncooked feed to young turkeys, as it is almost sure to cause digestive troubles. A dish of sand, one of lime, a clean crockery dish



When dressed for high-class retail trade, there are generally better returns from dry-picked birds with flight feathers and ruffs at neck and knees unplucked



# Silage for Beef Cattle

## Increased Profit and Less Expense for Feed by Using Silo

By HARRY G. BEALE

IN THESE days of high-priced land, feeds, and stock cattle, the question arises in the minds of many cattle feeders as to whether we can afford to continue feeding cattle or change our system of farming so that the profits are more certain and the risk less.

For two generations on our farms, consisting of 1,085 acres, the production of beef and pork has been the main source of revenue, with the results of each year's feeding usually showing a profit, while at times the grain could have been hauled to market, netting larger returns. However, to be a successful cattle feeder one must follow it year after year, he must like the business and have his plant properly equipped.

Until within the last few years our plan has been to go to Kansas City, St. Louis, or Chicago in August or September, and sometimes later, and buy cattle weighing 900 or 1,000 pounds, grazing them that fall or as long as the grass is good and the weather permits, usually putting them in the feed lot from December 1st to 15th. Here they were carried on a light feed of shock corn and plenty of roughage, such as fodder or straw, until about March 1st, when the shock corn was increased until they were on full feed, or nearly so. Hay also was usually fed in the spring. About May 1st these cattle were turned on grass, being fed corn a few days so they would make the change in good shape, then no corn was fed for a month or six weeks. About June 10th we would begin feeding husked corn to them while on pasture, and feed them this way until they were sold the middle of July or the first of August. Some feeders never stop feeding corn when they turn their cattle on grass, but we have tried both ways and believe they will do just as well for the month or six weeks when first turned out. While in the feed lot, hogs at the rate of one or one and one half to each steer follow the cattle.

This in a brief way is the plan followed by many feeders in this community at the present time, and in a year such as the present, when cattle that cost \$7 to \$7.50 at home last fall are selling at \$12.25 to \$12.50 now, with hogs worth \$15 to \$16 per hundredweight, there is a profit in feeding cattle by this method. However, the large profit is made in the advance in the selling price over the cost price of the cattle.

A few years ago the margin between the cost of stock cattle and the selling price of fat cattle was so small that we decided we would either be obliged to find some way to cheapen the cost of production or go out of the cattle business. At that time there were only a few silos in this section, and we found upon investigation that the farmers were well pleased with the results they were getting, and were feeding many more cattle per acre farmed than we were. We further investigated by writing the experiment stations of our corn-belt States, asking for bulletins on the use of silage. We received bulletins and personal letters explaining the different methods and best results obtained from feeding silage. We now have three vitrified tile silos, giving us a capacity of 550 tons of silage.

In order to prove to our own satisfaction and duplicate the results of some of our experiment stations, that a combination of silage and cottonseed meal together with a more concentrated feed toward the end of the feeding period would make a cheaper gain than to feed shock corn and dry feeds, we used forty of our feeding cattle—the number we had in one feed lot—weighing the cattle each month and weighing the feed for the entire feeding period of 180 days. In this way we were able to get at the exact cost of producing a pound of beef for market.

For comparison we put 15 cattle in an adjoining feed lot together with 24 hogs, feeding the cattle all the shock corn they would eat in the morning and giving them husked corn in the evening, weighing the cattle, and keeping account of all of the feed consumed during the day.

Experience has taught us that the most economical gains are made by feeding cattle all of the silage they will eat twice daily, and cottonseed meal at the rate of 2½ pounds per 1,000 pounds live weight. We fed no shock corn or grain of any kind, nor any roughage. On

March 15th we began feeding some molasses feed, which we believe puts a little higher finish on the cattle, but we are going to try to finish our cattle next year on silage and cottonseed meal alone. These cattle were never turned out of the feed lot after they were started.

The result of the feed consumed and the gains made by months is as follows:

FEEDING PERIOD	
DECEMBER 15, 1916, TO	JUNE 15, 1917,
180 DAYS	40 CATTLE
Dec. 15, 1916—40 steers	weighed 36,620 lb;
	average 915.5 lb per
	steer.
June 15, 1917—39	steers weighed 52,-
	340 lb; averaged 1,-
	342.05 lb per steer.
January 16, 1917—1	steer got his leg
	broken and was sold.
Total gain of 39 steers	in 180 days, 16,780
	lb; averaged 426.55 lb.
Average daily gain per	steer for 180 days,
	2.38 lb.

### AVERAGE DAILY GAIN PER STEER BY MONTHS

Date	Daily Gain	Total Gain per Steer
Dec. 15 to Jan. 15.....	3.2 lb	96 lb
Jan. 15 to Feb. 14.....	2.78	83.58
Feb. 14 to Mar. 15.....	1.95	56.66
Mar. 15 to Apr. 14.....	1.74	52.31
Apr. 14 to May 15.....	2.63	80.31
May 15 to June 15.....	1.92	57.69

### FEED CONSUMED PER STEER PER DAY BY MONTHS

Date	Corn Silage	Cottonseed Meal	Molasses Feed
Dec. 15 to Jan. 15.....	73.7 lb	2.5 lb	....
Jan. 15 to Feb. 14.....	65.76	2.56	....
Feb. 14 to Mar. 15.....	67.69	2.87	....
Mar. 15 to Apr. 14.....	58.46	3.20	2.30 lb
Apr. 14 to May 15.....	56.41	3.20	7.66
May 15 to June 15.....	54.87	3.58	6.66
Average for 180 days...	62.81	2.98	5.54

### AMOUNT AND COST OF FEED CONSUMED IN THE 180 DAYS

Corn silage 221.40 tons @ \$5.00.....	\$1,107.00
Cottonseed meal 11.02 tons @ \$37.50.....	413.42
Molasses feed 9.9 tons @ \$36.30.....	350.36
Total.....	\$1,870.78
Cost of feed per cwt. gain for the 180 days.....	11.14

### COST OF FEED PER CWT. GAIN BY THE MONTH

Dec. 15 to Jan. 15.....	\$7.22
Jan. 15 to Feb. 14.....	7.62
Feb. 14 to Mar. 15.....	11.41
Mar. 15 to Apr. 14.....	14.22
Apr. 14 to May 15.....	12.94
May 15 to June 15.....	17.35

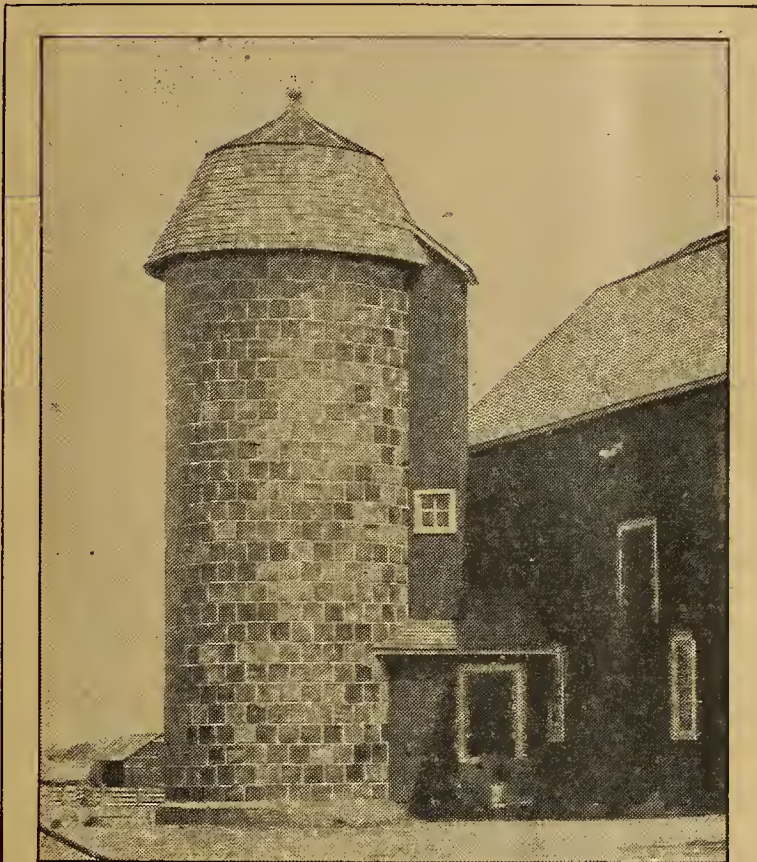
### PRICES OF FEEDS

Corn silage per ton.....	\$5.00
Cottonseed meal per ton.....	37.50
Molasses feed per ton.....	36.30

Steers are not charged with feeding and care, and no credit has been allowed for the pork produced from hogs following the cattle or for the manure produced. However, the manure and pork will more than equal the cost of feeding and care.

Not so detailed a report will be made on the shock fed cattle, but totals only:

Feeding period, 90 days.	
Initial weight per steer, 1,228 lb.	
Final weight per steer, 1,420 lb.	
Average daily gain per steer, 1.88 lb.	



The silo is as useful to the feeder as it is to the dairyman; and both are finding it indispensable

Average daily gain per hog, 1.34 lb.  
Shock and husked corn consumed per day per steer and hog, 2.24 pecks.  
Molasses feed the last 13 days per day per steer and hog, 7 lb.  
Cost of feed per cwt. gain of steers and hogs, \$14.10.

Of course, in the lot fed shock corn, the hogs are to be considered, because much of the profit is in the hogs following, while where silage is fed but few hogs are needed, and are not figured at all in this test.

Now as to the prices of the feeds: The basis used for the shock corn and husked corn was \$1 per bushel, the silage was valued on the same basis, and the cottonseed meal and molasses feed at their cost price.

By comparing these results we find that the silage-fed cattle made an average daily gain of 2.37 pounds, while the shock-corn-fed steers

gained only 1.88 pounds per day. The cost of feed per hundredweight gain of the silage-fed steers was \$11.14, while the cost feed per hundredweight gain of the shock-corn-fed steers and hogs was \$14.10.

Some may ask what we do with all of our roughage, such as straw, fodder, hay, and also our grass. Under our present system we buy yearlings in January or February each year, feeding them on what roughage we have until grass. They are then grazed all summer, and put in the feed lot and fed out as described above.

From our experience we have come to the conclusion that the silo is as necessary for the beef producer as it is for the dairyman, and it is serving its purpose well in these war times, when every effort is being made to conserve our food supply.

## Wintering Sheep

By D. B. CLAYPOOL

SHELTER, proper feed, and good management are the requisites in bringing sheep successfully through the winter season. While some shelter is necessary, close housing is not advisable, especially with the ewes in lamb. Large, dry yards in which the sheep have plenty of room for exercise are the first requirement. Seven or eight square feet of floor space in a shed is necessary for an average-sized sheep. The fleece affords sufficient warmth in dry weather, and for this reason the main need for a shed or a sheep barn is protection from storms. On most dry nights the sheep prefer to stay out of doors, and will winter better if allowed to be there.

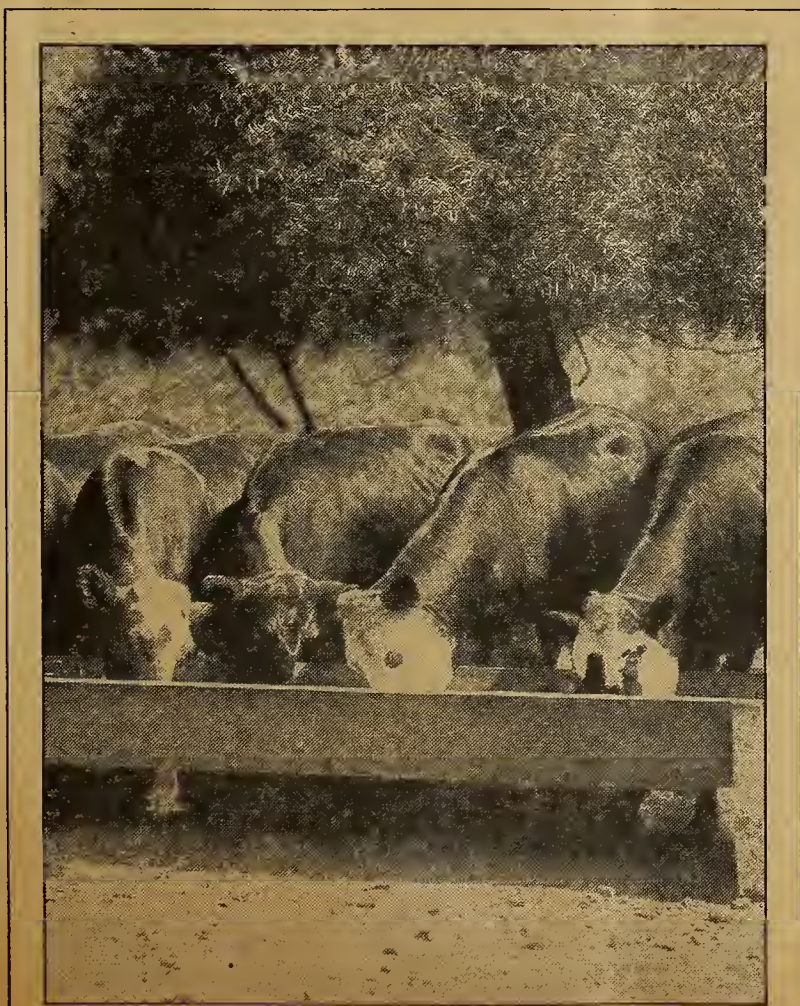
While some of the roughage should always be fed out of doors, it is more convenient to have the feed racks inside the barn. With breeding ewes, toward lambing time, there is danger of injury in their crowding through narrow gates. In dry weather it is a good plan to have a pasture on which they can run during the day.

If the wether lambs and the cull ewes are sold early in the fall, it will be possible to use the winter feed and quarters for a larger number of breeding ewes. Sheep will usually thrive better with not more than 40 or 50 in a lot.

To bring the breeding ewes to lambing time in good vigorous condition, and only in medium flesh, is the problem of wintering breeding ewes. This can be done by giving plenty of exercise and the right kind of feed regularly. When the fall grass is soft it is a good plan to start with a little dry feed before the ewes are removed from the pasture. Hay may be used at this time, although a feed of half a pound of grain a head daily can be fed more conveniently.

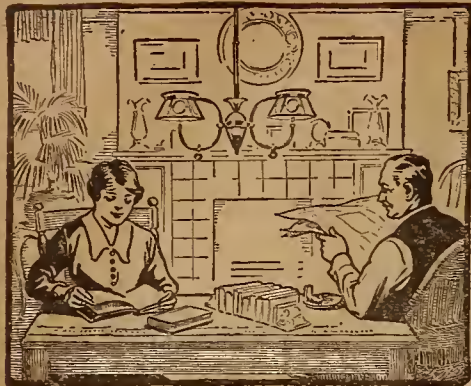
Rape or rye, sown with small grain or drilled in the corn, is excellent for fall feed, and is also useful in the spring. This is an economical feed, and is helpful in keeping the sheep in good condition. With plenty of roughage, such as red clover or alfalfa hay, sheep can be carried until nearly spring with little grain. Corn silage can be used to furnish succulence, though some losses and a great deal of trouble have resulted from improper feeding of silage. Sheep are peculiarly subject to injury from moldy feed. Poorly kept silage is therefore to be avoided.

An excellent ration for ewes with lambs at their side is oats and bran. The flock should have access to water and salt all the time. In feeding rams during the winter season the object is to feed them as cheaply as possible, but at the same time to keep them in a thrifty condition.



Cattle that are fed silage and cottonseed meal make the best gain for Mr. Beale





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# Why France Needs Meat

## Shortage Becomes Acute as Herds Decrease

By FRED B. PITNEY

THE French Government is very bureaucratic, but the French people do not like to be overgoverned. They object seriously to anything that savors to them of meddling in a man's private affairs. For this reason it has been extremely difficult to get a workable income tax law in France. The people immediately rose against the proposal to give the Government the right to examine their books and find out if they told the truth about their incomes, or find out what their incomes were if they failed to make a return. So a scheme was figured out for taxing a man on seven times his rent if he made no income tax return, or one the Government thought too low.

Saying how much or what a man shall eat is also getting pretty close to private affairs, and therefore the French Government, knowing intimately the people it has to deal with, is very slow in coming to such measures, even in face of the only too evident food shortage in the country. There have been efforts at price-fixing; but they have not worked satisfactorily, one reason being that they have not been national, but local. Paris, for example, has tried fixing the price of butter, but it has been found that the result has been to drive butter away from Paris to localities where it could be sold for what the market would pay.

A scheme of national price-fixing is to be tried now with beans and potatoes. Both of these crops are far below the

suffer when meat became scarce. The price went soaring. Retail prices to consumers doubled and trebled. The poor cut down in quantity, and the very poor went without entirely. But those who could pay could have meat if they were willing to give the price.

The time came, however, when there had to be an attempt to control the consumption. The army requires 36,000 tons of meat a month, or 432,000 tons a year. France's herds suffered enormously at the very beginning of the war. A total of approximately 2,500,000 cattle, sheep, and hogs from the French herds were seized by Germany in the invaded provinces. Coming immediately on top of this loss, France found herself compelled to find food for some millions of Belgian and French refugees. This had to be done at once, and the herds remaining had to be slaughtered without stopping to ask questions about the future.

England, therefore, undertook to supply France with 250,000 tons of meat a year, and this supply was kept up at the rate of about 20,000 tons a month until February of this year. At that time the English supply stopped. England was, having then all she could do to feed her own people on reduced rations.

Thus, since February, France has had to supply from her own resources 432,000 tons of meat a year to her armies, 1,428,000 tons for the civilian population, and another 350,000 tons for refugees, making a total of 2,000,000



Photograph by Central News Photo Service

German prisoners enjoying tea in a British camp. Prisoners often come from the trenches half starved, especially if they have been cut off from supplies

requirements of the country. I have seen many days when potatoes could not be bought in Paris; and it was a common thing last winter to have to run over half the city to find a market where green vegetables could be bought. The national price-fixing scheme for beans and potatoes will divide the country into districts, and fix the price for each district, with a penalty for sending either commodity out of the district without permission.

So far meat has withstood all efforts to control its consumption—there has been no attempt to control its price—and yet it is vitally necessary either to control the consumption of meat in France or to increase the supply. Otherwise the end of the war will see the country so reduced in its herds that it will take many years to bring them back again to the point where France will be once more self-sustaining.

Of course, the thing to do is to increase the supply. When a country has had its breadstuffs cut down to the extent to which France has suffered, the people naturally fall back on meat. One might think they would fall back on vegetables, but the same reasons that have deprived them of grains have deprived them of vegetables. There have not been the hands to cultivate the ground. They could no more raise vegetables than wheat; and they have fallen back on beef, mutton, and pork. The herds existed and they have been eaten up. The people had to have something.

To what extent the herds have disappeared is shown by the cutting-down of the meat ration of the soldiers at the front. At the beginning of the war they were allowed one pound of meat a day. Twenty per cent has now been cut from that allowance. And I will point out again that only dire necessity will countenance reducing the food allowance of soldiers at the front. Civilians, naturally, were the first to

tons of meat a year demanded by France.

What are the herds she has to do this with? At the beginning of 1914 her cattle herds comprised 14,787,710 head, sheep 16,131,390, and hogs 7,035,850. By the end of 1914, after five months of war, her cattle were reduced to 12,668,243, her sheep to 14,038,361, and hogs to 5,925,291. To-day her cattle herds are cut down more than 20 per cent, while her sheep number no more than 10,000,000, and her hogs 4,000,000—a loss of nearly 50 per cent of her hogs and three eighths of her sheep on top of the loss of 20 per cent of her cattle.

Cattle feed is short in France and the cattle are poor and under weight. More of them have to be killed in proportion to supply the needed quantity of meat. Milch cows have been killed, and the shortage of proper feed has reduced both the quantity and quality of milk.

The Government is trying to conserve the meat supply and save the herds now, by limiting the use of meat to one meal a day. The endeavor is made to accomplish this purpose by forbidding the sale of meat after 1 P. M., and ordering the butcher shops closed at that hour, while hotels and restaurants can serve meat only with the noonday meal. But this measure has had little effect on the use of meat, as it serves only against the restaurants. Housekeepers can buy all the meat they want before one o'clock; and they do it, as there is no restriction in the amount that can be bought. Moreover, in the restaurants one can eat all the meat one wants at midday, and thus make up for having none at night.

There is only one real solution of the problem: France must have more meat. Her herds are disappearing rapidly. They are to-day far below the danger point. Soon they will have to be reconstituted entirely. Meat, meat, meat, and again meat, is a pressing need for France.



# Reducing Farm Expense

## Methods That Lessen Labor Cost in Raising Stock

By L. G. HOOD

ORDINARILY the farm manager who wants to reduce expenses has two chances. These are in the cost of labor and in the expense for feed for live stock, especially for work teams. The expense of labor and feed for teams, according to a survey of farms made by the Minnesota College of Agriculture, is about 70 per cent of the total expense of the farm. Labor costs make up 45 per cent of this, and feed for teams about 25 per cent. Depreciation and repairs for machinery is about 8 per cent of the total expense, and taxes and insurance make about 7 per cent. Threshing and twine on the farms that raise much small grain require about 6 per cent of the total expenditure, and caring for corn silage costs about the same on farms that run largely to corn and live stock. Miscellaneous items amount to about 9 per cent of the total.

There is little chance for reduction on the machinery or threshing bills. The taxes and insurance bills are not under the farmer's control, and the miscellaneous items make up so small a percentage that a reduction which would cut this expense even half would make little appreciable difference in the total. The economy must come from a saving in labor or in feed, for which nearly three fourths of the entire expenditure goes.

Of course, there must be a sufficient amount of feed to keep the teams in good condition. In fact, there is very little chance for saving in the cost of the feed that is required to keep an animal year after year. Yet in many instances horses are overfed in the winter when they are not being worked, or they are fed high-priced roughage when something less expensive would do equally well. Some farmers who grow alfalfa and have little or no prairie hay feed the alfalfa when it would be better to sell it and buy inexpensive feeds. The greatest chance, however, for economy is in saving labor, and the best way to save in labor costs is to reduce the waste time. This may be done by using to advantage the amount of labor that is required in the summer continuously throughout the year; devoting more time to crops that require attention outside the regular rush season of the farm, lengthening the busy season; raising more live stock which will take attention during the winter when other work is light; letting the animals take care of themselves as much as possible, so the labor required for feeding or caring for live stock may be near the minimum.

C. B. Crandall of Dakota County, Minnesota, has found that he saves from \$400 to \$600 on the cost of raising a three-year-old pure-bred Percheron stallion by feeding mixed clover and timothy hay and corn stover in open sheds during the winter.

The Crandall farm produces every year about 20 pure-bred Percheron colts which are put on the fancy-stallion market at three or four years old. They are sold in competition with horses that have been pampered under blankets in box stalls from the time they were colts until the day they were placed on the market.

Mr. Crandall meets the competitors with a horse that does not look quite so good, but one that weighs heavier, looks stronger, and gives better satisfaction than the pampered animals. And he can reduce the price \$200 or \$300 on account of the rough coat of hair, and still

make money by his method of feeding.

The shed in which the horses winter is a lean-to around a hay barn. Clover and timothy hay is kept for the horses in one end of the barn and corn stover in the other. Fresh hay is always in reach, and what is wasted is scattered over the floor of the shed for bedding. The waste is no greater than when hay is put regularly in a manger or box. The only trouble in feeding is to push hay down in reach of the horses about once or twice a week. It is surprising

Mr. Crandall's three-year-olds and guess his weight at 200 pounds less than it is. They are firm, solid, and hardy. The feeding shows in the breeding. In twenty years, with from a dozen to twenty horses sold every spring, only one has ever been returned on a guarantee of 50 per cent in breeding.

That the Crandall method of handling blooded stallions might be applied with good results to grade horses is the opinion of the man who owns the herd. A common scrub horse that is allowed to winter on a strawstack is usually worthless by the time he is three years old. One that has been fed in the barn every winter from the time he was foaled until three years old has cost more than he is worth. Mr. Crandall thinks the medium course, the open sheds, making hardy, vigorous colts, and growing them cheaply is the proper treatment for all young horses.

There is no doubt that carefulness pays in handling stocks and crops, but the idea that is being carried out is to make the extra care pay in real money. If a man is convinced that a short cut on labor will show profit when balanced up with the more careful way, then that is the proper method to choose, all advice to the contrary notwithstanding. This idea does not conform to the rules that are generally conceded to underlie best farming, but it brings in the money in the instances recited.

By making every saving possible in the amount of labor used, the A. J. McGuire farm in Randolph County, Minnesota, makes a return of five cents a minute on all the time spent in raising 100 pigs a year. The pigs are raised with one hour's attention a day. For the 365 hours' time they cost they paid last year about \$3 an hour.

To get the largest return the labor is reduced to a minimum. Most of the labor is done in preparing fields and in driving the pigs from one field to another. In the spring they are turned into an 8-acre field of mixed rape and alfalfa pasture. With an ordinary season this field makes all they will eat in the summer. Grain-feeding is begun about the middle of September, when the pigs are turned into a 15-acre field of corn, beside which is a 4-acre field of new rape. In the cornfield they collect the feed needed to fatten them. Hogging down corn is the cheapest method that has been found on the McGuire farm, and several others were tried before this was settled upon. After a month in this field the pigs are turned into another field, and the sows that are to be kept over winter are left in the field to clean up the waste. A month in the second field leaves the pigs ready for market.

The winter work is also reduced to a minimum, and feeding is taken care of as cheaply as possible, so far as labor and time are concerned. The sows that are kept over are wintered in straw sheds with concrete floors. The sheds are made new each fall. In many parts of the country these sheds are made with little trouble at threshing time by having a framework of poles set up and blowing the straw on it. Outdoor horses like oat straw, and will eat on the heavy north wall, making feeding almost automatic. Beside the sheds are placed portable corner cribs and feed boxes from which corn middlings and shorts can be fed with the least trouble. Running water is supplied to the sheds.



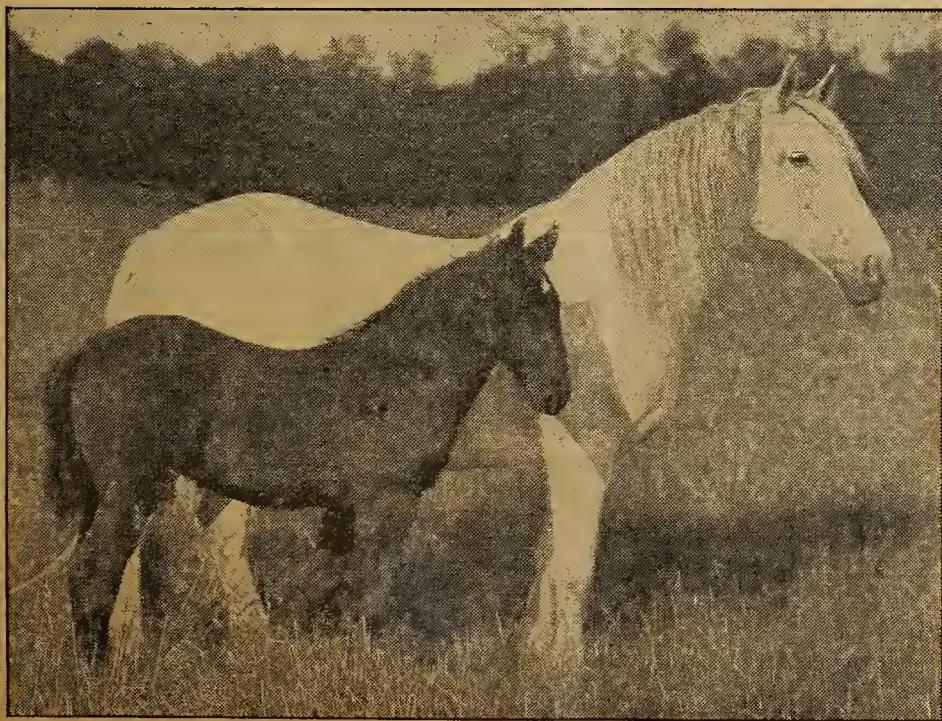
Hogs bring good money. Pasture gives them an inexpensive growth

how much of the time the horses spend out of the shed. In the coldest of Minnesota weather and in severe blizzards and snowstorms they spend hours running and playing, or standing on the far side of a 20-acre field. They are not in the sheds nearly half the time.

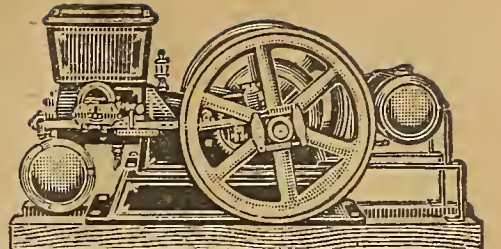
### The Outdoor Colts Vigorous

With the horses out so much the manure question is reduced to a minimum. Much less than half the work is needed to haul manure from the shed that is required in closed barns, and because the sheds are open cleaning is as easy as it possibly could be made.

The horses are kept together from the time they are weaned until they are sold. Accustomed to each other from the time they are colts, they seldom fight. They are not stabled at any time during the winter, and they are never groomed while running out. Occasionally they are caught, and curried to keep them fairly clean. The colts grow a heavy coat of hair, and when this sheds in the spring, before the show season opens, the new coat can easily be put in a fairly good condition. The stallions sold are especially vigorous. Men who are accustomed to buying stabled horses frequently look at one of



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THE NATIONAL FARM PAPER

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Farming of Indianapolis, Indiana

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November 17, 1917

## Corn Shrinkage

THE question of corn shrinkage again comes up for consideration. Some buyers believe it economy to lay in a year's supply of corn this fall, while others think it a saving to pay somewhat higher prices next year rather than take the shrink.

Just how much penned corn will lose in weight is largely a matter of speculation among farmers. There are, though, some official figures available on the subject. A few years ago the Illinois Experiment Station made trials with dry corn that had been cribbed. In one instance 20,545 pounds of dry ear corn were weighed into a crib on December 6th. On the twenty-fifth day of the second September following, 18,690 pounds of corn remained, the loss for the twenty-two months being 1,855 pounds, or nine per cent. In another crib, containing practically the same amount of corn, the loss was 9.2 per cent. The loss in these trials was much less than for others, where the shrinkage from December to the following September ranged from 12.3 per cent to 19.8 per cent. From the end of the first year to the end of the second year the shrinkage was very little, the greatest shrinkage for the two years being only 20.7 per cent. In all the tests the heaviest shrinkage of ear corn in cribs (the corn being dry when cribbed) occurred during the months of April and May.

In an Iowa experiment corn cribbed in December had lost 20.9 per cent in weight up to June 1st. A number of years ago, in Michigan, 16,767 pounds of corn were placed in a crib as soon as husked. The weather was damp and rainy at the time, and when, in the following February, the corn was weighed it showed a loss of a little over 30 per cent.

The lesson to be learned is that perfectly dry, well-matured corn will show but little loss in the crib, while corn cribbed wet or too early is apt to be expensive to the buyer even if it does not rot. If final figures for the 1917 crop equal the Government's early estimate of considerably more than three billion bushels of corn, we will still have none to waste. The individual buyer is directly interested in shrinkage per cents. The entire nation, though, is concerned in losses caused by improper cribbing.

## Testing Cows

CAN you tell how heavy a producer your cow is by simply looking her over? Sixteen hundred people passed their judgment on eight grade cows at five Massachusetts fairs last year, and only 29 per cent of the people picked the highest producer, and by 5 per cent of the people she was thought to be the lowest producer.

On the other hand, the poorest cow was thought to be the lowest producer

by 26 per cent and 8 per cent said she was the highest. Thus only about one fourth of the people, most of them cow owners, were able to distinguish between animals showing a variation in production of 2,000 to 5,000 pounds of milk a year. What an eloquent argument for starting a cow-testing association! Quit guessing; test, and know the facts.

## "Freedom" in Marketing

THE writer had some peaches last August which he wanted to find a market for. He reasoned that peaches being a good article of food, and there being a couple of millions of hungry people in Chicago, it would be a fine thing if he could ship to that point and sell to the pushcart men who vend peaches on the streets. So he had an investigation made to see what the prospects would be. The man who made the investigation knows all the ins and outs of the marketing business in Chicago.

"I find," said his report, "that even if a good run on the railway could be secured for your peaches into Chicago the trouble would arise in getting your cars properly 'spotted' on the tracks in Chicago—that is, in getting them properly placed for unloading.

"There is such a ramification of tracks here that a dollar or two slipped

## Rearing Hothouse Lambs

IF a person lives near a city he can rear hothouse lambs at an attractive profit. Hothouse lambs can be turned on to the market in a short time, the danger of loss by disease is reduced to a minimum, capital isn't tied up for several months, and the business is profitable.

A hothouse lamb is born late in the fall or early winter, usually November or December. Its growth is crowded so that it will be fat enough for market at two months, and weigh 45 pounds. The demand is strong after Christmas, and continues until warm weather. A later lamb will sell as quickly as the hothouse product, but the heavier the lamb the lower the price.

In butchering the lamb it is suspended from a tree or pole about six feet from the ground. To bring the best price the product must be fat and the carcass attractive.

A fat young lamb weighing 45 pounds will dress about 25 pounds. In preparing the product for market it is hog-dressed, bled out thoroughly, and all of the exposed surface is covered with clean muslin. Three lambs are placed in a light crate and burlap is tacked over the top. They should be shipped by express. Attention to details is the secret of success.

## Thanksgiving 1917

NEARLY three centuries ago, in testimony of their solemn gratitude for the blessings of liberty and prosperity, the Pilgrims celebrated the first Thanksgiving in America. In defense of their rights as free men, they had crossed the seas from Europe to a savage land, and after crushing hardships had attained a comparative measure of independence and safety.

To-day, in 1917, thousands of our men are leaving American shores for the battlefields of Europe. They, too, are crossing the seas in defense of liberty. And we, gathered in our peaceful homes, and missing perhaps some well-loved one now cheerfully accepting soldier's fare somewhere under the colors—we give thanks.

We give thanks that in the day of its pride and riches our country has not lost the will to succor the suffering and oppressed in less fortunate lands. We are grateful that our security has not blinded us to the peril of other nations; that our abundance has not made us insensible to the need of our neighbors; that our liberty has not lulled our minds to forgetfulness of other peoples bowed under a galling yoke. We give thanks that our sons have not lost the iron of their Pilgrim forefathers; that they are willing to rally to the defense of freedom even to celebrating Thanksgiving Day in the thunder of their guns; that life is not so sweet to them but they can risk losing it in the cause of democracy.

by interested parties to the brakeman or switchman would be sufficient to have the cars marooned on some remote switch, among hundreds of other cars, and by the time the head officials could be seen and the matter straightened out the peaches would be a pulp."

Here is a matter which might well be looked to. Peaches marooned on a remote side track for the purpose of destroying them by decay will not do much to cut down the high cost of living in the cities, nor add to the cost of high living on the part of the farmer.

"I find," said the report, "that this has happened time and again in cases where independents have shipped to Chicago or other large cities.

"Then I find that pushcart men and hucksters, while otherwise ready and willing to buy peaches from the car, would be afraid to do so, for fear that they could not make their regular purchases of commission men. So, you see, it is the old, old question."

It is a reign of terror, you see, as well as a hold-up.

We need free markets.

It is indeed the old, old question. The grain men had to solve it when elevators refused to handle their grain unless it was bought through the combination of country elevators.

The middleman is a necessity. But the middleman who organizes to compel shipments to him and his fellows is a menace to the producer and the consumer.

## Our Letter Box

### Marrying a Man Past Fifty

DEAR EDITOR: In answer to the "old maid's" question in the March 17th Editor's Letter, "Do you think a man of fifty-one years too old for a woman 32?" I should like to tell my experience. I am the youngest of four sisters; parents died some years before my marriage. Up to the time of my marriage I had been a public-school teacher for twelve years.

At thirty-two I was married to a farmer of fifty-one, owning a farm home of 160 acres, and who had lost in death the wife of his youth after a union of over twenty-six years, leaving a family of three girls and four sons—all now married. I have a son twenty-two years old, a high-school graduate, who now, with his father and help, carries on the farm, and also a daughter past seventeen, now in high school.

In my case I am certain that I have improved my condition and happiness by being married at thirty-two to a husband of fifty-one, who is a moral man, using neither liquor nor tobacco. While in our marriage, as most all other marriages, we both have at times cares and annoyances, nevertheless, our happiness during our busy life has more than offset our trials.

In the meantime, beginning soon after our marriage, we have enjoyed together many, many outings and travels, in which we have seen every section of this country.

I judge that the man that the "old maid" is considering as a would-be or intended husband has been married. If so, and they each love and respect the other, and if he has no vicious habits

and a home for his wife, she need not fear that a man of his age is in his dotage, but, on the other hand, is more considerate and attentive than a younger man at a first marriage, who is less inclined to adjust his life habits.

MRS. L. A. LUDLOW, Illinois.

### Snake River Paradise

DEAR EDITOR: No, it's not a paradise for snakes at present, but for man—here in the valley of the river named by the red man "Snake Water" or "Snake Stream."

All things considered, probably our ideal climate takes highest rank here in southwest Idaho (Owyhee County). But the climate so well adapted to human comfort is likewise well suited to our main crops—alfalfa, barley, potatoes, wheat, peas, and most garden crops. This country, which is a half-mile above sea level, is also the home of peaches, pears, prunes, apples, and berries of all kinds. The most expensive thing is water, which costs all the way from 25 cents to \$5 an acre per year, and a permanent water right from \$10 to \$75 an acre.

Our average rainfall is only about 10 inches a year, with practically no danger of storms to injure the quality of our alfalfa throughout the spring and summer.

Dairying, hogs, and poultry are to be the great stock industries of this region, and anyone having good farm sense and grit can win here.

L. J. CALDWELL, Idaho.

### Cookstove Efficiency

DEAR EDITOR: I wonder if many FARM AND FIRESIDE women-folk are not having the same needless trouble with coal-burning cookstoves that I formerly experienced. There is a real knack in firing a cookstove, just as there is in firing an engine boiler. It is easy to lose 25 per cent of the heating value of coal by improper firing, which is at present no small item. One must fire for both heating and lasting qualities of the fuel. Some helpful "don'ts" I have discovered are:

Don't allow clinkers to form on the lining, and if by chance they do remove them carefully with a poker or old chisel.

Don't allow the firebox at night to be more than just level with top after all dead cinders and ashes have been removed.

Don't use shaker if it is possible to avoid it. Use a poker freely instead, and you will have a much better fire and use appreciably less fuel. Shaking the fire brings the coal down into a solid mass and the air cannot properly circulate through it.

Don't stir over the top or put on wood when a coal fire "drags," but remove the cinders, stir from the bottom, and open the drafts. An open circulation of air from the bottom is absolutely necessary to generate heat, and the air cannot circulate when the fire is closely banked.

Don't close the drafts at first when coal is put on for the night, but let the fire burn until the fresh coal is thoroughly heated all through, and there will be practically no danger from ill-smelling and often deadly gas fumes from the slowly burning coal after the fire is regulated for the night.

By giving the proper care and attention it is possible to run a range so as to get all the heat necessary without having the top and sides red-hot, thus preventing the warping of these parts. The same principles apply to coal heaters, and since I have learned to fire according to experts' practices I find our fuel bills are considerably less and there is much less worry and disappointment in my cooking and heating operations. MRS. M. C. THORPE, Texas.

### Likes the Fiction

DEAR EDITOR: Would you mind giving a little room, not for any particular suggestion, but merely to express my gratitude for the fiction in your paper?

There is nothing I enjoy as much, or more, than reading stories. When the story "Hearts and Hazards" made its appearance I read it, and thought it the best story I had ever read. It was, in fact, until "The Blue Envelope" appeared. I found it to be still better.

I not only enjoy the serial stories, but also the short stories. According to my estimation, though, I believe I like the serial stories the better because they leave you in deep thought from one issue to the other, and at the same time arouse anxiety and curiosity.

FARM AND FIRESIDE not only contains good stories, but also helpful farming and cooking hints. Another interesting department in the paper is the puzzles. Although I'm not particularly fond of arithmetic, I do enjoy good puzzles twice a month.

If this paper were to stop, I feel sure I would be entirely lost.

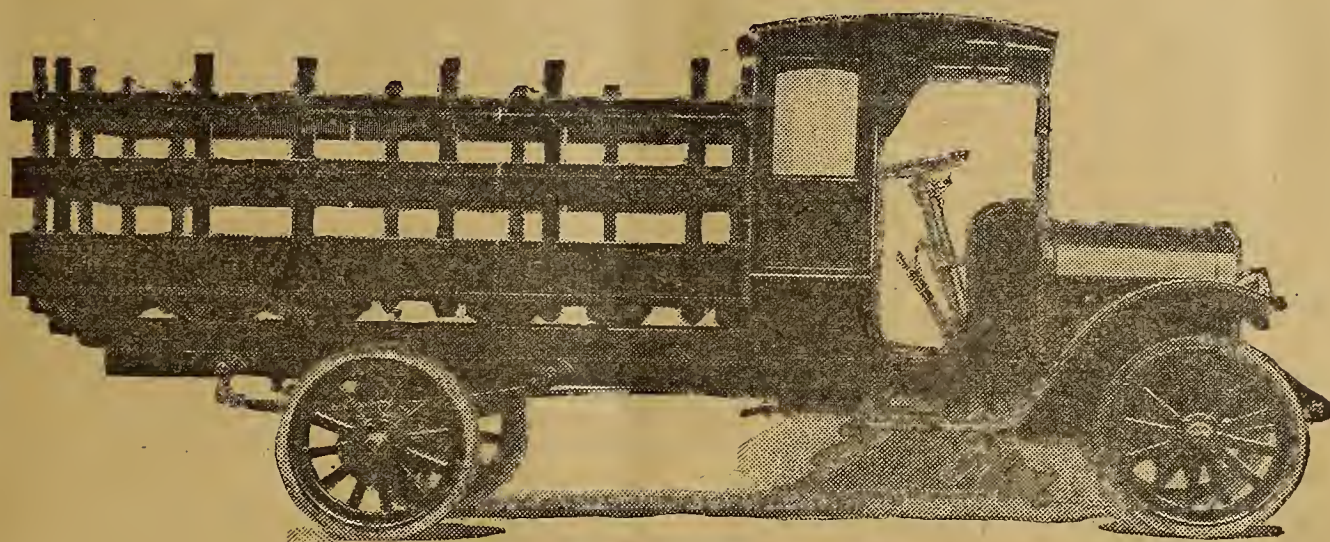
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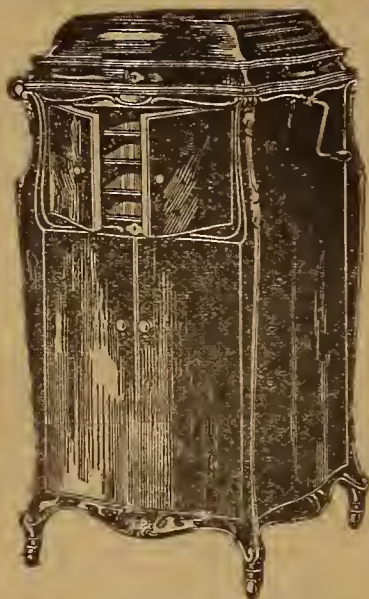
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# Driving Ahead with the War

*Tremendous Energy Already Shown by Government is Only the Beginning of What is to Come*

By JOHN SNURE



WASHINGTON, D. C.,  
Nov. 5, 1917.

**I**NCREASED energy will be thrown into the war from this time on by the American Government.

This may sound like a surprising statement when one considers all that has been done since last April, when the lowering war clouds broke over the United States and Congress voted to link the fortunes of this country, so far as the European struggle goes, with England and France and the rest of the Allies. Yet, as a matter of fact, what has been accomplished thus far, in the period of about seven months since the war opened, is only the merest beginning.

It would be well, indeed, if every man and woman in America would sit down and think quietly and calmly about the problem which confronts the nation at this time and every responsible person in the nation. It is too much to hope that every man and woman in the country will do this, or that a half of them will do it. But it will be well worth while if the most of the readers of FARM AND FIRESIDE give the subject their earnest and thoughtful contemplation.

In the first place, let us not delude ourselves with the idea that the war will soon be over. I do not assume to predict when it will end. That is something which no man can predict with anything like certain knowledge. But I am safe in saying that there is nothing in the atmosphere in Washington at this time which warrants the belief that the war is going to end in a short time. On the other hand, the preparations for the continuance of the war which are being made by this Government, and which are being made in England, France, and Italy, and likewise by Germany and her allies; are anything but suggestive of an early peace.

Some peace talk has lately been heard in Germany and in Austria. The Pope's peace letter, of course, is still fresh in memory. The Pope's efforts for peace have so far failed. Strong peace sentiment exists among the German and Austrian people, but the feelers for peace which have been put forth, apparently by the German Government, have served to bring out the determination of President Wilson to fight the war through to a successful conclusion.

**T**HE President has lately emphasized the fact that it is the purpose of this Government to carry on the war to a victorious ending. I have it on the best of authority that this is the inflexible purpose of the English Government and its allies. Not only that, but the English people themselves have taken hold of this problem with the bulldog determination for which the British are famous, and are going to see it through. France could not desist short of victory if she wished, and she does not wish to. The French Government and the French people realize that unless Germany is definitely defeated in this struggle, and if a compromise peace is made which settles nothing, then the war will be renewed at the very moment Germany feels herself sufficiently reorganized to launch another series of smashing drives toward Paris. Not all the Italian people are favorable to the war, but Italy to-day is better prepared to carry on the conflict than ever, and the Government and the great majority of the people intend to carry it on. It is not out of the question that Russia should be induced by German blandishments and diplomacy to make a separate peace, but the chances are this will not be done, and that Russia will continue to stand loyally by her allies.

Those who are looking for an early peace—and all of us would gladly see peace come to-morrow—will do well to remember that some phases of the preparations which the Allies are making are based on the idea the war may continue for five years. The British agricultural program is mapped out in part for five years ahead. An eminent American journalist, lately returned from Europe, said the other day that there was among British officials frank recognition that the war was likely to last from three to five years longer, and perhaps even more than that.

It has been charged at times that the President and the men around him went into the war with the idea that it would not last long and would end before the United States got large forces at the fighting front. I do not know whether they had such an idea, but it is quite plain now that this Government is planning for war far ahead.

The appropriations and authorizations for a little more than the first year of the war have already rolled up to more than \$20,000,000,000. Before the recent session of Congress closed, it was common talk among the leading men in Senate and House that before the war was over it would cost the United States \$50,000,000,000, if not much more than that sum. It was freely recognized that it would be necessary to pour out such piles of treasure to finance the war that future generations would be mortgaged to pay off the burden of the indebtedness.

**T**O SAY that this country has hardly begun the war, and that increased energy and force are to be thrown into it, is not pessimism. It is simply taking a look at the situation squarely in the face. The worst thing that can happen to the American people, so far as the effective conduct of the war to a victorious conclusion is concerned, is to deceive themselves or allow themselves to be deceived as to the magnitude of the task which they have on their hands. Germany could wish nothing better in the present condition of things than to get the American people convinced the war was about over, and that it was useless to get much stirred up about it. President Wilson, Secretary of State Lansing, and other officials have perceived this clearly, and have been careful to warn the public against allowing itself to be lulled into slumber by German peace talk and propaganda.

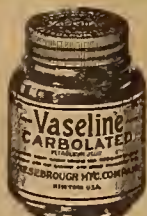
The United States has by no means got under full head of steam with respect to war preparations. Despite the scope of the preparations which have been on for some months, we have barely got started. This has been the cause for some criticism—part of it just, part of it unjust. However, it is not surprising that it should take time for this country to bestir itself.

Think back to the experience of the Civil War. The North in that conflict did not make its greatest preparations in the first year of the struggle. The first proclamation was for 75,000 volunteers, and they called General Sherman crazy because he insisted it would take vast armies to subdue the rebellion. Not until the third and the fourth years of the war was the full power of the Federal Government really in motion.

But one does not have to go back so far to see that it takes time to get a democratic nation really started to fight. England to-day is estimated to have 5,000,000 men under arms. Never before were her preparations so formidable. But it is well to bear in mind that it has taken over three years of hard and steady pounding for England to reach the point she has reached.

Congress will meet again in regular session the first Monday in December. One might suppose that in view of the great amount of war legislation it enacted in the recent session it would have little to do in the regular session. But that is far from the truth. On the contrary, Congress is coming back to Washington bent and determined on driving forward the war with the utmost vigor and energy, regarding what it has done thus far as merely laying the foundation for the big work ahead. When Congress meets in December it will be in continuous session for nearly a year, and it is a safe prediction that whatever seems needed to give the Government ample power to carry on the war effectively will be done.

To the billions already appropriated, many billions more will be added for ships, men, guns and munitions, and all the panoply of war. If the President needs still more sweeping powers, he will be given them. If additional army and navy legislation is needed, Congress will put it through. The likelihood that the food-control [CONTINUED ON PAGE 14]



## Vaseline Carbollated

Reg. U. S. Pat. Off.

Petroleum Jelly

A most effective antiseptic dressing; also especially good for barber's itch, insect bites, poison ivy and corns.

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Put up in handy glass bottles. At Drug and General Stores everywhere. Send postal for free illustrated booklet full of valuable information.

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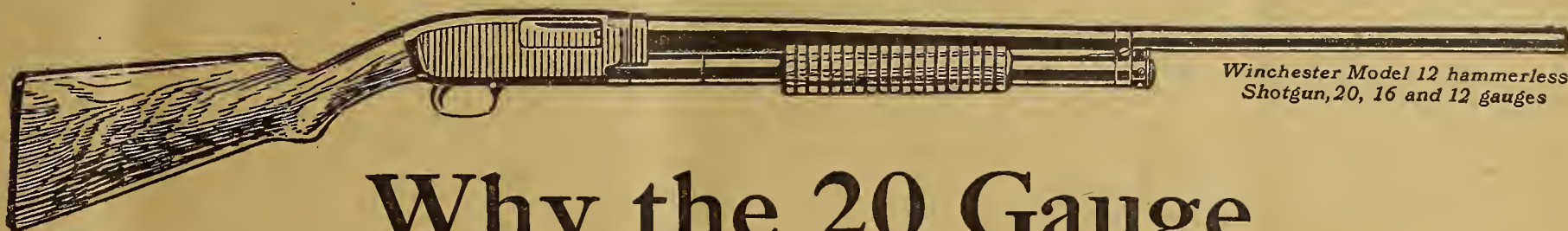
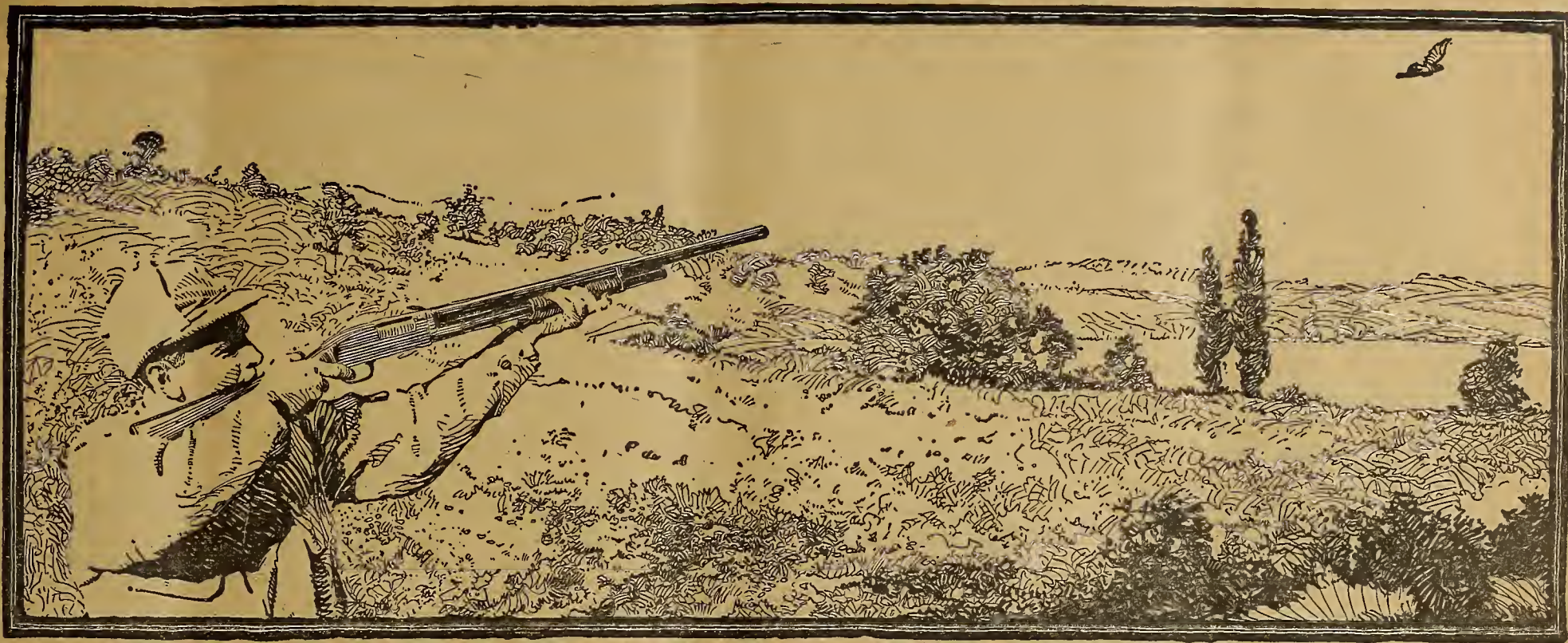
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because it is made with a wool lining and a wind-proof exterior that keep in the natural warmth of the body and keep cold and wind out. Better than an overcoat, cheaper than a sweater, wears like iron, won't rip, tear or ravel, and washes. Styles—vest, jacket without collar, and jacket with collar. Ask your dealer for

## Brown's Beach Jacket

W. W. Brown, Worcester, Mass.





Winchester Model 12 hammerless  
Shotgun, 20, 16 and 12 gauges

## Why the 20 Gauge is Gaining in Popularity

Back in the '90s the 10 gauge was the weapon that had the call among American sportsmen.

But as the game became scarcer, there came a better sense of sportsmanship. The 10 gauge yielded to the 12 gauge.

Today, hunters who are in it for "Sport's Sake" are taking to the light 20 and 16 gauges—the true sportsman's guns.

When you carry a 20 gauge, you're *playing the game* and you *earn* every bird you bring down.

### Quicker action and better pattern with the 20 gauge

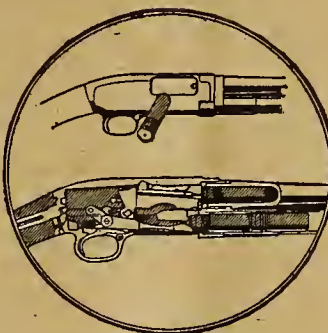
In the hands of a good shot, the 20 gauge has proved almost as effective a field gun as the 12 gauge. This is because in the first place, being lighter, it permits of quicker handling; you get onto your game faster.

Then, too, if you're quick, most of your shots at quail, snipe and prairie chicken will be at from 15 to 25 yards; at these distances the properly bored 20 gauge makes its best pattern, while the 12 gauge does not open up so as to give the shooter the full benefit of its larger load of shot until close to 40 yards.

The 20 gauge then can give you as good a bag as a 12 gauge if you handle it fast and get onto your game quickly. It's a sportier gun to work with.

### A gun that few sportsmen can resist

The nicely balanced Model 12, Winchester 20 gauge with its slim, graceful barrel is a beautiful weapon and has a fascination about it few sportsmen can resist.



Quick feeder, sure ejector.  
Throws empty shell to the  
side out of your way.



Dense, even, hard hitting,  
quick opening pattern of  
the Winchester 20 gauge.

It works smoothly in whatever position it is held.

A man who has used this Model 12, 20 gauge Winchester; or its duplicate in the Model 97, 16 gauge—for those who prefer a hammer action gun—for a few days of shooting, finds it hard to go back to his heavier 12 gauge.

### The barrel is the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest or lowest priced Winchester guns. With Winchester the barrel is the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

### The Winchester barrel

The barrels of the Winchester Models 12 and 97 have been scientifically bored to micrometer measurements for the pattern they are meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until the pattern proves up to Winchester standard, the guns cannot leave the factory.

The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

### What means

This mark on the barrel means *Viewed and Proved Winchester*. This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and with excess loads for strength. At every stage of Winchester manufacture machine production is supplemented by human craftsmanship. It is a *test and adjustment process*.

It is this care in manufacturing that has produced in these two light gauge models, guns that have won the admiration of all true sportsmen who follow *Sport for Sport's Sake*.

### Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and describes at length the principles on which every one of the world-famous Winchester rifles and shotguns are built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.  
Dept. C-4 New Haven, Conn.

### Home Defense Leagues!

We have a Winchester for County and Home Defense Leagues which is meeting with universal approval. Many Home Defense Leagues throughout the United States have already been equipped with this gun.



Winchester Model 97 Hammer Shotgun  
Take-down Repeating Shotgun. Made in  
12 gauge, weight about 7¾ lbs.; in 16  
gauge, weight about 7½ lbs. The favorite  
with shooters who prefer a slide fore-  
arm repeating shotgun with a hammer.

# WINCHESTER

World Standard Guns and Ammunition



# men!



Now comes Mayo Underwear knit with 10-ribs to the inch instead of 8. 10-rib knitting makes Mayo the only medium-priced underwear that's "actually knit in the dollar way"—the 10-rib way.

## 10 Rib

10-rib knitting brings to Mayo Underwear greater comfort. Get into a suit of Mayo Underwear. Then note that pleasant "give" to every slightest bend or twist. That's 10-rib elasticity.

## warmth!



The same 10-rib knitting gives Mayo Underwear a cozy warmth that's mighty friendly to your body. For it's plain common sense to see that a closer-knit fabric is bound to be a warmer fabric.

Get 10-rib Mayo Underwear before Jack Frost gets you.

## Mayo

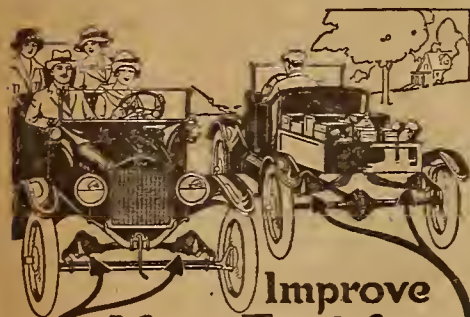
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The only medium priced underwear that's "actually knit in the dollar way".

Men's winter Shirts and Drawers  
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All dealers either have or can quickly get for you 10-rib Mayo Underwear

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Whether you use your Ford for business, for pleasure, or for both, you can make this great car still more satisfactory by equipping it with the



## Shock Absorber Cars

In business use, where running cost is all-important, the Hassler should be used because it gives you from 20 to 100 per cent greater mileage from your tires, reduces up-keep a third, and increases the mileage per gallon of gas surprisingly.

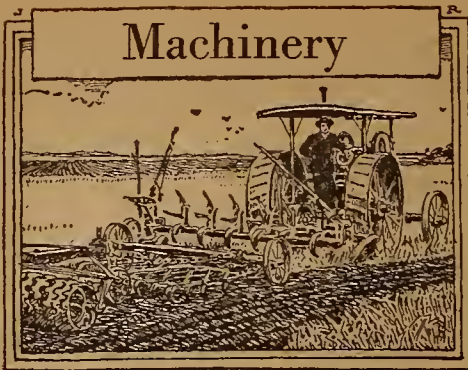
In pleasure riding where comfort is all-important, the Hassler should be used because it absorbs all jolts and jars, prevents rebound, eliminates sideways and provides the gentle, springy action similar to the riding qualities of the big \$2,000 cars.

### 10-Day Free Trial Offer

Write today for FREE TRIAL BLANK and we will have a set of Hasslers put on your Ford without a cent of expense to you. Try them 10 days. Then, if you are willing to do without them, they will be taken off without charge. Don't ride without Hasslers simply because someone discourages you from trying them. Accept this offer and see for yourself. Over 800,000 sets in use. Write today—NOW.

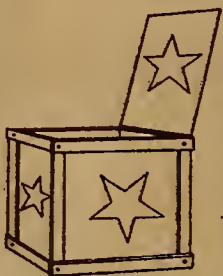
ROBERT H. HASSLER, Inc.  
Dept. N-3 Indianapolis, Ind.

## Machinery



### Enclosed Grabage Pail

By P. W. Coombe



I devised for the pail, and which has been quite an improvement.

First I called at the grocer's where we trade and asked him to give me an old crate from around a 50-pound can of lard, also five of the top or bottom lids from tobacco caddies. Four caddy lids will just fit the four sides of the crate. The crate already has a bottom, so the fifth lid, placed on hinges, makes the cover.

My only cash expense was five cents for a pair of small hinges and a few small nails. The result was a neat though unpretentious covered box.

### The Farm Blacksmith Shop

By R. B. Rushing

DID you ever look around to see how many farmers near you have a real good set of blacksmith tools—not an expensive set, but just a real simple, practical set that most any farmer and his son can handle?

Recently when I was away from home I chanced to spend a part of a day and night with a progressive farmer, and he related the following experience from his shop:

"I had always been rather skeptical as to the practical utility of a blacksmith shop on the farm, but now that we have one installed in the tool house its real value has been emphasized many times.

"Not that I mean to say that such an outfit saves a great deal of money in actual blacksmithing expenses, but it does save time when time is most valuable.

"Again and again important parts of machinery were repaired during the noon hour or immediately after an accident, when, but for an outfit, a trip of five miles and often a delay of a day in the work undertaken would have been necessary.

"Then, too, when a little list of necessary repairs is kept in a notebook, rainy days may be very profitably utilized, and the idle months are just the ideal times when everything about the farm can be looked after and kept in order. We are also able to shoe our own horses now, and appreciate this fact very much, as men who can put on shoes right are very scarce.

"Our outfit is very simple and only cost about \$40, but would probably cost \$50 or \$60 now. However, where not much work is to be done, even cheap articles will give very good service; but I prefer the best articles.

"The first thing to be considered in the furnishing of the shop is the forge. Here is where many farmers make a mistake—they buy one that is altogether too small. First we took one of medium size, and it suited us very well until we began to sharpen plowshares; then we could have used one much larger. Little bench forges are entirely too small; they should have a fire pan about 18x24 inches at the minimum.

"A good anvil will weigh about 100 pounds, and it should not be much lighter. Not necessary for it to be larger, however. A cast-iron anvil that will not stand hard pounding should be avoided. The same is true of the vise; one with steel jaws and wrought-iron body that will stand heavy pounding should be bought. This will cost from \$4 to \$5.

"The rest of the more expensive tools will be an upright press drill for boring holes in iron. This is a very convenient tool and used oftener, perhaps, than ordinarily supposed. It costs from about \$5 up, and is easily attached to the wall of your shop. In addition to the press, a set of stock and dies, for cutting threads on bolts, is a necessity. Five to ten dollars will buy a good farmer's outfit.

"Other tools, such as machinist's hammer, a blacksmith's hand hammer, and, for sharpening plows, a round-faced hammer should be provided. A pair each of plain and bolt tongs will complete the main equipment, and other tools, such as chisels and wrenches, may be gathered as needed. The careful farmer will soon be able to make many hand tools himself.

"Coal free from sulphur and earthy materials, one that does not furnish clinkers, must be used. Welding compound and the soldering outfit are handy."

It is a pleasure to me to go into the shop of such a farmer and see his boys learning to be handy with tools. Many become experts.

### Stump Pullers and Explosives

ACTUAL field experience shows that stump pullers and powder blasting should supplement one another.

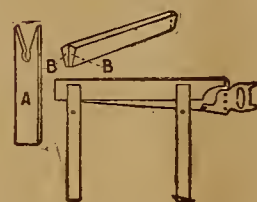
The stump-pulling machines are made strong enough to pull out stumps of almost any size, but when stumps larger than can be lifted by one man are pulled, the disposing of them after they are out of the ground is as much of a job as pulling them. They have to be handled by horses or engines and derricks, or chopped into pieces, either of which is slow and expensive.

On the other hand, it is not worth while to punch a hole and prepare a charge of explosive with cap and fuse for a stump less than six inches or thereabouts in diameter. The chief reason is that the roots are so near the surface that there is not enough dirt over the powder, if it is placed close to the roots, to confine it and give proper explosive force against the roots.

The small stump is the particular object for the stump puller, and the larger stump for the powder. If the job of clearing is in a hard-wood section, where the trees that were cut stood close together, and none of them, or few of them, measure more than six inches in diameter across the top, don't use powder. Get a puller, provided you have acreage enough to justify its purchase. The powder will take the stumps out, and will save buying a puller, no matter what their size, if there are only a few of them.

When the stumps measure a foot and up to two or three feet or more in diameter, powder is essential to split them up, and unless the acreage is very large the purchase of a puller is not justified. If you already have one, however, it may pay you to loosen some of the more widely spreading stumps with explosive, then pull out the pieces with the machine.

### Saw Clamp Easily Made



THIS clamp for holding saws while being sharpened is strong and durable. Two pieces of 2x4, each 36 inches long, and two 1½x4, each 26 inches long, are all the materials needed. First make the two uprights shaped like A in the sketch, and then the two jaw pieces like B B.

Place the saw between the jaws, drop them in notches in uprights, and tap down lightly with hammer. By making the notches in the uprights deep enough, you can sharpen the largest cross-cut saws.

INVENTORS are still working on wireless planters for check-rowing corn. An Illinois mechanic has lately been granted a patent on such a device. Thus far wireless check-row planters have not proved successful.

### Repainting a Buggy

By Otto T. Boggs

A READER who wishes to paint a buggy asks for directions by which he may be sure of first-class results. The repainting of a buggy or carriage is an easy and inexpensive job, the final results depending entirely upon the willingness of the person doing the work to follow the directions given by the manufacturers of the paints or varnish used.

First, jack up the vehicle and remove wheels, shafts, and other detachable parts. Take off the bed also if convenient, as this will make all parts easily accessible. All grease around the hubs, fifth wheel, and shaft holders should be thoroughly scraped off and the surface then cleaned with benzine.

Go over the wood and metal surfaces to be painted, with No. 0 sandpaper or fine steel wool, removing all loose paint scales and rust. Wipe off the dust that is bound to result from this operation, so that the surface is clean. The work should be done in a clean, dry room, at a temperature between 60 and 80 degrees Fahrenheit. The room must be free from dust, which will otherwise settle on the wet paint and spoil the finish. After each rubbing operation the work should be carefully brushed off and the dust disposed of so it will not cause trouble.

Buy one of the reliable automobile and buggy paints made by some reputable manufacturer—a paint that you feel quite sure contains the best materials. Wherever there are bare spots on wood apply a coat of a good lead primer, giving it twenty-four hours or more to dry. Then rub these spots lightly with moss, curled hair, or fine steel wool. Bare spots on metal should be given a priming coat of the buggy paint of the color to be used for the finishing coat, reduced with 10 to 15 per cent of turpentine. Allow this coat to dry at least forty-eight hours, then rub lightly with moss, curled hair, or fine steel wool.

### Keep it Free from Dust

Paints for this kind of work are known as varnish paints or varnish colors. The color pigments have a tendency to settle to the bottom of the can, so be sure to see it is stirred to an even consistency before using.

Apply the paint with a soft bristle varnish brush, flowing it on just like varnish. This coat needs forty-eight hours or more for drying. If the vehicle is in fair condition before painting, only one coat will be necessary. But if the surface is in bad condition, two coats will be required to secure a satisfactory finish. In this event rub the first coat lightly with moss, curled hair, or fine steel wool in order to reduce the gloss so that the finishing coat will adhere properly. Then, after wiping the surface free from dust, apply the second or finishing coat. Allow it to dry forty-eight hours or more before using or moving the vehicle.

To renew the finish on leather tops, curtains, and cushions, clean them thoroughly with benzine to remove all grease spots, and coat them with a good enamel top dressing, which may be purchased in any good paint store. In applying the dressing to cushions do not let it settle into the depressions in a coating too thick to dry properly. Let the enamel dressing dry forty-eight hours.

For mohair tops and cushions use one of the good mohair top finishes. Have the top, curtain, and cushions clean and free from dust and grease. Dampen slightly with a wet sponge and apply the mohair finish with a bristle brush, brushing it out well. Do not put the top down until it has dried out thoroughly after the application of the finish.



Preparing the stock fields for early pasture with a corn-husking machine. At the cribs automatic hoists unload it



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I built this vast manufacturing business on the plan of no lost profit between manufacturer and user. I cut out all waste from the raw material to the finished product and from the time the product leaves the maker's hand until it gets to the actual consumer. I built the first really high quality Gas Engine and sold it direct from the factory at a most reasonable price—the same with Separators, Engines, Tractors, etc.

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BEST EVER FOR 1918

My new 1918 Sanitary Model outstrips them all. There is no other separator built to compare with it for fine construction, beautiful finish and down-right, clean skimming efficiency. Because my price is so low don't compare my 1918 Sanitary Model with those cheaply built down-to-a-price separators. My Sanitary is compared only with the finest and best built separators—the ones that usually are 20 to 40% higher than mine. Stand them side by side. Test them for every separator feature and see how the Galloway is unsurpassed.

### Buy on 180 Milkings Test

Let this 90 day working test prove its worth on your own farm. Be certain it's the separator you want before you decide to keep it. Note how sturdy and strong—how easy it is to wash and clean—how close it skims—and a hundred other separator points that mean so much to you in dairy profits. Write today for book.

### TRACTORS MY LATEST 12-20 MODEL

The great new Galloway Tractor is now the accepted type for all light models. It is not a freak, but a general all-around portable farm power house. It is built like an automobile. It has anti-friction bearings. Twenty-one sets of Hyatt roller and ball bearings save the engine's power for the draw-bar and the pulley where the power is needed. Dynamometer test shows Galloway Tractor to take only 13 1/2% of the engine's power to pull the tractor without implement. This is about 1/4 to 1/2 the power required by other tractors. Has a four cylinder valve in the head, modern motor, water cooled. Exclusive patented transmission. Will pull three 14-in. bottoms 8 to 9-in. deep in clover or timothy sod. Will do any portable engine job—sawing, silo filling, corn shelling, shredding, handling a 23-in. grain separator, any kind feed grinder, pumping or irrigation plant. Double chain drive. Get Tractor facts in my new 1918 Book.

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My complete 1918 Engine line is all ready—from the light engine for pumping—the small portable 4 to 6 H. P. for doing light power jobs—the 9 to 12 H. P. Heavy Duty type, to the big, powerful 16 H. P. Mogul Models for the toughest and heaviest jobs. No matter what kind of power service you want, there is a Galloway Engine just built for your purpose. You don't have to be an engine expert to see how skillfully Galloway Engines are designed—how scientifically they are built—how masterfully machined or how beautifully finished. Behind this wonderful exterior is the greatest inside engine efficiency ever produced. My big 1918 Book gives you engine facts that will pay you to know and save you much of your engine money. It posts you on every engine question—will keep you from paying too much. Send coupon for the book now.

### SPREADERS With Next Year's Improvements

Here for 1918 is my greatest spreader triumph. It's my master model—the best I ever built since I made my first spreader. See what these features mean on your field in actual work—proof that the Galloway is the spreader you want. It's low down—with light draft. Two horses handle it anywhere without killing the team. Has wide spreading V-rake—strong beater teeth that tear the toughest clumps into shreds and makes possible even and easy spreading. The patented roller feed—the reason for its light draft—is an exclusive Galloway feature and one that you would gladly pay \$25.00 more to get—but costs you nothing extra on the Galloway. The patented automatic stop, uniform clean-out push board are other important features that spell real spreading efficiency with the Galloway. Write for my big 1918 Book and get the story complete. Send for the Book NOW—use the coupon.

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Today—now—cut out the coupon and sign your name and address. Mark a circle around the implement or implements you soon intend to buy and mail to me. Then my big 1918 Book will be on its way to you by return mail. This great book is a real guide to farm buying and represents the most amazing savings in the face of rising costs all-around. This book shows you the fallacy of the three and four way extravagant plan of distributing products and proves I divide the melon by my direct-from-factory-to-farm method and save you 25% to 40% on separators, tractors, engines, spreaders and other implements. I save you on freight, too, by shipping from my warehouses at St. Paul, Chicago, Council Bluffs, Kansas City as well as from my factories at Waterloo. Send me the coupon tonight—sure.

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I bought a No. 8 Manure Spreader from you last winter and it has been tried in every way with all kinds of manure, even with big frozen chunks in it and it stood the test to perfection. It is as you claim it to be. I saved \$30.00 on the price. RICHARD DAVIS, Burdett, Kansas.

### And This!

I have run gasoline engines of different makes for the past seven years. I find the 16 h. p. Galloway the simplest, most powerful and best governed engine I ever saw run, and \$225.00 cheaper. Henry Wenhem, Milton, Wis.

Pulls 3-14 in. bottoms

Double Chain Drive

Plows—Threshes—Grinds—Fills Silos  
Shreds—Hauls—Grades Roads—Saws

## Mark a Circle

around the implement you want special information about.

## This Is Important

because it means you will get the exact information you want.

## Money Saving Patriotic Price COUPON

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Wm. Galloway Company  
397 Galloway Station, Waterloo, Iowa

Send me your 1918 Book.

Name

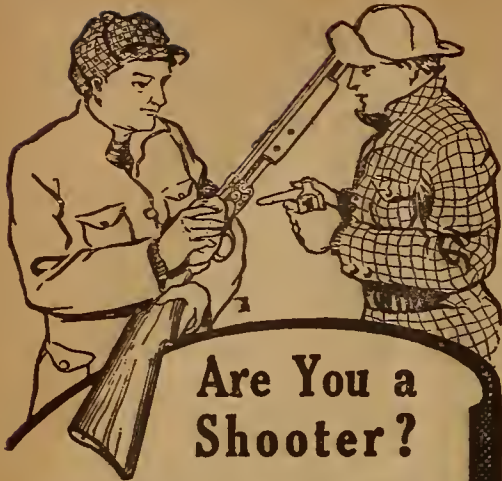
P. O.

R. F. D.

State

There are 79 different advertisements in this issue of *Farm and Fireside*. They run in size from three lines to a full page. That means that advertisers have spent amounts varying from \$8.25 to \$2200.00 to tell you about the articles they have to sell. That is a good deal of money to invest, and it is hardly probable that they would so invest it unless their reputations were established for honesty and fair dealings.





## Are You a Shooter?

Then see that your outfit includes a plentiful supply of 3-in-One oil. Nothing like it to keep a gun in fine shooting condition. Oils lock, trigger, ejector and break-joint perfectly. Cleans the barrel of burned black powder residue. Prevents leading and pitting. Also keeps a fine polish on stock and fore-end.

### 3-in-One oil

contains no acid or grease. Never gums or dries out. All big gun makers use and recommend 3-in-One oil. Hardware, sporting goods, drug and general stores sell it. Three sizes: 1 oz. bottle, 15c; 3 oz., 25c; 8 oz. (1/2 pt.), 50c. Also in Handy Oil Cans, 3 oz., 25c. If your dealer hasn't these cans, we will send you one by parcel post, full of good 3-in-One, for 30c.

**FREE**—Write for a generous free sample and the 3-in-One Dictionary.

**THREE-IN-ONE OIL CO.**  
165 LUG. Broadway, New York



**RAISE BELGIAN HARES FOR US.** New Zealand and Flemish Giants Profits Large! We supply stock and pay you \$3.00 each. Also Cavies, Squab Breeders and Fur Bearing Animals. Instruction Books, Contract, and prospectus for dime. None free. **OUTDOOR ENTER-PRIZE CO.,** Box 5, Holmes Park, Mo.

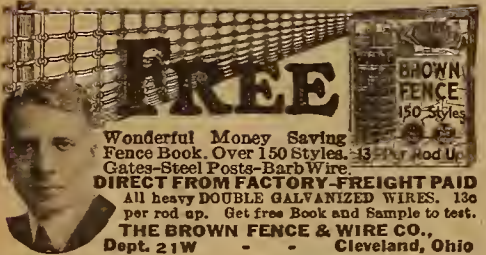
## Overland Aluminum Shoes

The world's great farm and creamery shoe. Water-proof, rust-proof, light and durable. Warm in winter, cool in summer. Best by test, and you pay less. A postal brings free catalog.

**OVERLAND SHOE CO.**  
Dept. 27-B Racine, Wis.

## FARM FENCE

**23 1/2 CENTS A ROD** for 2 1/2 inch Hog Fence; 34c. a rod for 4 1/2 in. 33 styles Farm, Poultry and Lawn Fences. Low prices Barbed Wire. **FACTORY TO USER DIRECT.** Sold on 30 days FREE TRIAL. Write for free catalog now. **INTERLOCKING FENCE CO.** Box 121, MORTON, ILLS.



## FREE

Wonderful Money Saving Fence Book. Over 150 Styles. 13c per rod up. Get free Book and Sample to test. **THE BROWN FENCE & WIRE CO.,** Dept. 21W, Cleveland, Ohio



## Pull Big Stumps by hand

Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

Works by leverage—same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.



Write today for special offer and free booklet on Land Clearing.

**Walter J. Fitzpatrick**  
Box 158  
182 Fifth Street  
San Francisco  
California



## Dairying

### Cost of Rasing Heifers

By J. Hugh McKenney

A LITTLE more than two years ago a neighbor paid a visit to my cow stable, and in the course of conversation I told him I was planning to replenish my herd by raising heifer calves from the best milkers. This was rather unorthodox to his way of thinking. He advised continuing as I had been doing, and as other dairymen in our district were doing—namely, to buy what cows were needed and let those less fortunately situated for marketing milk do the calf-raising.

This division of labor had at first appealed strongly to me, especially so because of the low price at which good cows could then be purchased. I had followed the practice for ten years until something happened that shattered my faith in that plan. While rummaging through the attic one rainy day, I happened onto a big bundle of papers which on examination proved to be the daily milk records of cows I owned previous to 1906.

Those old records were a revelation; the figures surprised me. I was still keeping records, so I went down-stairs and compared my recent ones with the old ones I had found in the attic. I found that the average of my herd in 1906 was equal to the record of my best cow now.

In those days I had done a considerable amount of grading up. If a cow possessed an unusual milk-producing capacity, I had bred her and raised the calf if it was a heifer, thus perpetuating her good qualities. Now, before me were the unimpeachable figures proving that I was not even holding my own—was, in fact, losing ground. What was I to do about it? If I went back to the system of grading up, could the calves be properly raised to a milking age at a low enough cost to warrant my making the change? I thought the matter over, but was convinced that the matter could be settled only by making the actual experiment.

### Kept Cost Record

So in October, 1914, I started with five Holstein calves, all dropped during that month. Not being satisfied with resting the case on merely a rough estimate, I decided to consider as far as possible all the factors that had a bearing on the problem, such as value of calves at birth, value of manure, feed, labor, housing, interest, taxes, and service fee.

At the end of two years I was able to summarize results in the following tabulated form:

Cost of feed, first year.....	\$23.00
Cost of feed, second year.....	36.70
Labor, first year.....	7.05
Labor, second year.....	4.57
Housing, per head.....	2.00
Bedding, first year.....	1.50
Bedding, second year.....	2.00
Tools, etc., per head.....	1.00
Interest.....	1.70
Taxes.....	.36
Service fee.....	1.00

Total cost of each calf for two years. \$85.88

Then I credited each calf with these items:

Value of calf at birth.....	\$3.00
Manure, first year.....	3.00
Manure, second year.....	6.00
Total.....	\$12.00

By deducting \$12 from the total expense of \$85.88, I found that each animal had cost me just \$73.88 to raise. I figured my labor at 15 cents an hour, the calculation being based on the average number of minutes per day required to care for and feed the calves. For tools, utensils, etc., I charged \$1 a head. Interest was estimated at five per cent and taxes at one per cent on the value of the calf at birth, plus the cost of tools, plus one half the cost of feed, labor, and bedding, less the value of the manure.

At the end of the first year the calves averaged 578 pounds in weight. The average amount of feed consumed by each the first year, together with the prevailing price, is as follows: 450 pounds of whole milk at \$1.50 per hundredweight; 2,400 pounds of skim milk at 20 cents per hundredweight; 16 bushels of oats at 50 cents; 750 pounds of hay at \$12 per ton; 525 pounds of silage at \$4.00 per ton; pasture three and one-half months at 40 cents a month. This makes a total of \$28 for feed the first year.

### Pays Good Interest

During the second year the feed consumed was: 25 bushels of oats at 50 cents; 1,500 pounds of hay at \$12; 2,500 pounds of silage at \$4 a ton; 400 pounds of bran at \$26 a ton; pasture for five months at \$1 a month, making a total of \$36.70. At the end of the second year the heifers tipped the scales at an average of slightly less than 1,000 pounds.

By skimping them in feed I could have raised them to this age at considerably less cost, but there would not have been the same degree of development. Also, any deliberate economy affecting the quality of the animals would have defeated my effort to find out what a well-cared-for heifer really cost. I have concluded that it costs more to raise a cow than most dairymen realize. But even if it does cost between \$70 and \$80 to raise a heifer up to the productive age, there is another side of the matter to consider.

I have received a fair wage for my labor, also all feeds and incidentals have been paid for at market price. Furthermore, I know the stock is healthy and of good quality. For the next five or six years each animal will average a net profit of at least \$10, which will be equivalent to over 13 per cent interest on the cost of raising her to milking age.

### Cause of Mottles in Butter

By Charles E. Richardson

BUTTER MAKERS are sometimes vexed and puzzled to find mottles and streaks in the butter after it is made.

One of the most common causes is the failure to have the salt fully dissolved. I have found the best way to salt the butter when it has been placed on the butter worker, and then while the butter is being worked the salt is also worked into it.

But one should use great care not to overwork the butter. Therefore there are times that the salt does not get worked into the butter properly, and after the butter is finished that salt is dissolved separately and shows in the butter, especially when cut, in the form of mottles or streaks. To correct such it is sometimes better to work the butter, with the salt one half the usual

amount, and later finish the working after the salt has dissolved more. But, better still, I think that if the salt is more or less dissolved in water and added to the butter while it is in the churn in granules, then churned until the butter is in large masses or lumps, and afterward worked as usual, there is very little chance of finding mottles because the salt has not been thoroughly dissolved.

Another common reason for streaks in farm butter is when the butter is allowed "to come" in the churn in large lumps. When it gathers that way, large quantities of buttermilk are incorporated therein, and no amount of washing can get it out. Later on streaks of the buttermilk are seen in the finished butter, and unless the butter is eaten soon it will cause a rancid flavor to come, which makes a poor quality of butter.

The churning should be stopped as soon as the butter begins to gather in granules about the size of cracked corn, or not larger than beans. Then, by washing, the water can get to practically every particle of the butter, and all of the buttermilk is washed out. Two washings should be enough if washed with the proper temperature of the water.

It is surprising how many farm butter makers let their butter gather in large lumps, either from carelessness or ignorance, when churning.

Yellow streaks are rarer, but they occur sometimes if the butter color is added at the wrong time (the right time is just as the cream has been put in the churn, before churning) or it has become lumpy from old age. Sometimes when carrots or yolks of eggs are used for coloring the butter little lumps of them may get in unseen and later cause yellow streaks.

I have known cases of streaky butter which were found to be caused by using cream that was not strained before churning. All cream and water used in churning should be strained carefully.

### Driving Ahead with the War

[CONTINUED FROM PAGE 10]

law will be strengthened and price-fixing legislation of comprehensive character will be enacted is strong. The draft law is quite likely to be broadened and extended. One possibility is that it will be made broad enough to include men between eighteen and forty years of age. This plan is seriously suggested.

Already there are signs that another call for 500,000 drafted men will soon be forthcoming. It will be necessary to make not simply one call, but two, and perhaps more than that, if the United States is to keep its total men under arms at 2,000,000, the figure officials have talked about as the force we would put into the service. Some have talked of 2,000,000 men in the field, actually on the fighting front. If this figure is realized, it will require enormous additions to the total of men taken under the draft, because the wastage of men in campaigning, both from bullets and from sickness and other causes, is extremely heavy.

The country has as yet scarcely felt the burdens of taxation which it will feel if the war goes on. It will be necessary for the regular session of Congress to raise more revenue and pass a law imposing additional taxes. It is safe to say that great incomes and great war profits will be subjected to levies so great as almost to confiscate them. More bond issues, too, will be authorized.

Shipping construction, manufacture of rifles, guns, munitions, and all sorts of war material, building of naval vessels, and organization of troops—all will be speeded up. Public sentiment is more and more demanding that the war be run with full steam. Congress is going to insist on it. More and more, in Congress and out of Congress, the demand for results in the conduct of the war will be heard. The time is near at hand when the troops of General Pershing in France will enter the trenches and do their full part of the fighting. The inevitable effect will be intensified effort by the United States to force the downfall of the Prussian military power.

A good deal of water has passed over the mill dam since last April, when this country entered the war. But after all, to use an expression of John Paul Jones, the United States hasn't begun to fight. The American people have known little of the burden and hardship and suffering of war. It will be just as well—yes, much better—if each of us understands that grim days are ahead, and each of us stands ready to face them, not timidly and shrinkingly, but bravely and manfully and as the time of trial and tribulation which is to be expected as a matter of course when war comes.



Arrangement of buildings in a quadrangle, with the open end south, makes a good shelter and handy feed yard





To Hurry Up Pear-Ripening

By F. E. Brimmer

THE specialty fruit grower who can get his produce on the fruit stands two weeks, one week, or even three days before the rush comes, reaps a good profit for his "scoop." This was accomplished in a limited way last fall by a fruit farmer of Orleans County, New York, who has fruit-stand trade in Rochester and Buffalo in fancy pears.

Generally, pears are gathered in an unripe condition and spread on the floor of a dark room one layer deep, at a uniform temperature of about 70 degrees. This ripens them much more quickly than if left on the trees. It is evident that in this process the perfecting aid of nature is not used, and hence something in flavor is lost.

To get the above conditions, plus the help of the tree in the ripening process, this live fruit grower resorted to the following method: Over several entire trees he placed canvas covers extending clear to the ground. Thus he secured the darkness which seems to help in the process of mellowing pears. To keep the fruit in a uniformly warm temperature night and day, a small oil heater was placed, when needed, within the tent. Thus he used the old-fashioned aid to ripening pears and added to it the advantage of Nature's help. By this method he got his pears on the market in the pink of condition ten days earlier than this same variety was fit when handled in the old way.

Saving Burst Cabbage

I HAD a fine lot of late cabbage, but nearly all of the heads cracked open so that I couldn't expect it to keep in storage. Since we don't care for kraut, I was puzzled to know how best to save it for table use, until my neighbor told me to can it as she used to do years ago.

We cut it fine and cooked it exactly as for the table except that no seasoning but salt was used. When fairly tender it was packed closely in jars and filled to overflowing with the hot juice, then processed and sealed as usual.

Team Work Growing Plants

BY CO-OPERATION in advertising their strawberry plants and planning to take care of such a side-line business efficiently, one farm neighborhood in Berrien County, Michigan, has developed a sales business of 30,000,000 strawberry plants annually. The shipping of the plants is done before the rush of farm work begins and the growing of them is made a part of the regular farm operations. During February and March not less than 600 men, women, and children are engaged in getting the strawberry plants ready for shipment on six different farms where the plants are grown. Thousands of orders are received from small buyers in every section of this country.

A motor truck is used to gather up the parcels and boxes of plants and to carry them to the shipping station. A large share of the plants is delivered by parcel post.



A motor truck has proved economical for gathering up the plant shipments from the farm for quick delivery

Fencing in the Garden

By H. K. Jenks

ANOTHER year's use of our fenced-in garden has proved that the expenditure for fence wire, posts, and labor required to fence it was a good business move. Our garden is twenty rods long and four rods wide, fenced with strong four-foot woven wire that will turn hogs, chickens, or any stock, with the strand of barbed wire six inches above the woven wire. The ends are enclosed with substantially made panels of the same fencing, which allows of their easy removal for plowing and cultivating.

There is no longer worry and damage from our own poultry, stock, or dogs, or those of our neighbors, and the permanent support for vining plants furnished by the fence is worth the effort of fencing in itself. Furthermore, our chickens can now have free range for a much greater portion of the year than before the hen-proof garden fence was erected.

Potato-Balls Now a Rarity

By A. T. Morison

THE accompanying photograph shows a potato vine bearing the "seed apples," or potato balls, as they are commonly called. Each of these fruits contains a large number of seeds. These fruits resemble small green tomatoes;

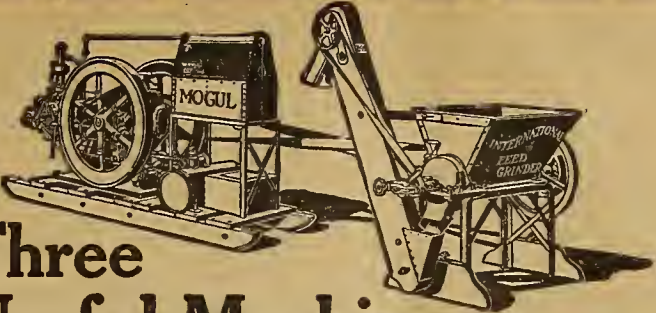


Stalk of Irish potato, 1917 crop, heavily loaded with seed balls

in fact the potato and tomato botanically are closely related. Twenty-five years ago these seed balls were much more common, and annually they were produced in considerable numbers. The continual breeding of the plant to increase the number and size of the tubers appears to have caused the potato to lose its power to produce seed.

If the fruits are gathered when the skins begin to wrinkle, and the seed dried and planted, they will grow, and new varieties of potatoes may be produced, but they do not breed true to the parent plant. Of course, many inferior strains will result, like the "common fruit" usually grown from apple seed. Sometimes, however, a really worthwhile variety results from potato-seed planting, and to watch the curious results produced by the experiment is in itself well worth the effort.

It is not a bit too early to get in touch with dependable nursery concerns and seed houses to get prices and full information about the trees, shrubbery, flowering plants, and seeds that will be wanted early next spring. Do it now!



Three Useful Machines

THREE International machines that will pay their way on any farm where there is corn to market or livestock to feed are:

- An International Feed Grinder
- A Keystone Corn Sheller
- A Mogul Kerosene Engine

International Feed Grinders, for grinding small grain, corn on the cob, or corn in the husk, come in three styles with regular or special plates, 6", 8", and 10" in diameter. Capacities from 5 to 30 bushels per hour.

Keystone Shellers, adaptable to large or small ears, shell hard or soft corn clean without cracking the kernels or crushing the cobs. There are eight styles in 1, 2, 4, and 6-hole sizes, with capacities from a few ears shelled by hand, up to 4,000 bushels per day.

Mogul Kerosene Engines furnish steady, economical power for these and other farm machines. They operate on the cheapest fuels. Mogul kerosene mixers; built-in magnetos that make batteries unnecessary; enclosed crank cases; full equipment, ready to run; are features of all Mogul engines, from 1 to 50-H. P.

Equip your farm with a set of these three useful machines. See the local dealer or write the address below for complete information.

International Harvester Company of America

CHICAGO U S A  
Champion Deering McCormick Milwaukee Osborne

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High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.  
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SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 5 ft. Through MEN With a 1 Man Folding Sawing Machine Beats 2 Cross-cut Saw 5 to 9 cords daily is the usual average for one man  
RUNS EASY No Backache weighs only 45 lbs. Saws DOWN TREES EASILY CARRIED  
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Not a solution but a perfectly atomized-Super spray that guarantees maximum fruit yields. Wonderful story of FRUIT-FOG, Spraying Guide and big Sprayer catalog FREE. Send postal today. No obligation.  
Hayes Pump & Planter Co., Dept. 00 Galva, Ill.

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Get it From the Factory Direct  
HORSE-HIGH, BULL-STRONG, PIG-TIGHT. Made of Open Hearth wire heavily galvanized—a strong, durable, long-lasting, rust-resisting fence. Sold direct to the Farmer at wire mill prices. Here's a few of our big values:  
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47-inch Farm Fence - 35¢ a rod  
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Special Prices on Galv. Barbed Wire  
Our big Catalog of fence values shows 100 styles and heights of Farm, Poultry and Lawn Fence at money-saving prices. It's free. Write for it today.  
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AMERICAN SHEET AND TIN PLATE COMPANY, General Offices: Frick Building, Pittsburgh, Pa.

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3 H.P. \$89.00  
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1 1/2 H.P. (Gasoline) \$48.00 on skids  
All F.O.B. Factory. With BUILT-IN MAGNETO  
ECONOMY and simplicity combine to make the "Z" Engine the one real engine for your use. The 3 and 6 H. P. sizes work on kerosene, at about one-half the cost of gasoline and you get the same power per gallon. Yes, they will operate on gasoline too. The 1 1/2 runs on gasoline only.  
More power at a lower operating cost is only one of the many features that make this engine the best buy for your money.  
Thousands of farmers have proved by purchase that they believe it to be the one best combination of engine value—compared with all engines irrespective of price.  
See the Fairbanks-Morse "Z" Engine in action and you'll surely buy it.  
The service you get when you buy from your dealer  
Your local dealer has a type "Z" in stock—waiting for you. Buy from him. He is prepared to give prompt delivery and personal service.  
FAIRBANKS, MORSE & CO., Chicago Manufacturers



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NO DOSE TO MEASURE.  
NO LIQUID TO SPILL.  
NO STRING TO ROT.

Each Blacklegoid is a measured dose of vaccine ready for use.

DON'T TAKE CHANCES.  
VACCINATE WITH BLACKLEGGOIDS.  
SIMPLEST, SAFEST, SUREST.

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Department Animal Industry of  
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DETROIT, MICH.

Wanted—Black Walnut Logs. Cash and highest prices paid. Batesville Lumber & Veneer Co., Lawrenceburg, Ind.

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BOOK on treatment of Horses, Cows, Sheep, Dogs and other animals, sent free. Humphreys' Homeopathic Veterinary Medicines, 156 William St., N. Y.

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In use over 50 years  
CURES HEAVES

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\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.  
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Latest design. Durable, Powerful, Reliable, Massive. Built to do hard, heavy work—to give lasting service. Uses Cheapest Fuel. Pails 25 to 50% more H.P. than rated. Shipped on three months' trial. Easy terms. Sizes 1 1/2 to 22 H.P. 10-Year Guarantee. Book free—postal gets it.  
OTTAWA MFG. CO.  
1151 King St., Ottawa, Kans.

### YOU CAN'T CUT OUT A BOG SPAVIN, PUFF OR THOROUGH- PIN, BUT

## ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. \$2.00 per bottle, delivered. Will tell you more if you write. Book 4 M free.  
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### Bad Bog Spavin Cured— Wins Eight Races

R. F. Huddy Furniture Co., Independence, Kan., writes:—"We treated our horse Laxel last winter successfully with Save-The-Horse for a bad bog spavin. Laxel raced successfully in ten races this year, winning money eight times. We have great faith in Save-The-Horse."

## SAVE-TH-HORSE

(Trade Mark, Registered)

has 22 years of records on cases worse than this—stubborn, so-called incurable cases. It is guaranteed by signed contract to cure Ringbone, Thorpin, SPAVIN, Shoulder, Knee, Ankle, Hoof or Tendon Disease—or money returned. Send at once for records, copy of guarantee and wonderful FREE Save-The-Horse BOOK, giving easy diagnosis and treatment of lameness. Expert veterinarian advice on request. ALL FREE! Keep a bottle ready for that emergency.  
TROY CHEMICAL CO. 60 State St. Binghamton, N. Y.  
Druggists everywhere sell Save-The-Horse with Signed Guarantee, or we send it direct by Parcel Post Prepaid.



## Live Stock

### If a Horse Steps on a Nail

By B. J. Smith

IF ONE of your horses steps on a nail, remove the nail as soon as possible and thoroughly cleanse the wound. If the horse limps, investigate the cause. The removal of the nail can easily be accomplished by the ordinary claw hammer, a small block of wood being used as a fulcrum over which to pry. If the nail is not too large a pair of pliers is suitable for this work.

If not cared for immediately the wound may cause lockjaw or permanent lameness. For cleansing the wound a syringe and warm water may be used if care is taken to cleanse thoroughly. The best method is to apply liberally any coal-tar product, as it is effective in breaking up the infection. If a nail wound is given immediate and careful attention the life of a horse is usually safe.

### Cooking Feed

COOKING feed for swine is not advisable, I have found, because it lowers its digestibility. This means that the swine will require more food to produce the same amount of grain in weight. The cooking raises the expense of production and cuts down the profits.

Potatoes, field peas, and roots, used as food in some localities, are more palatable and have their water content lowered when cooked. This also makes it necessary for the swine to consume more feed.

Cooking feeds requires a special apparatus, and takes much time and labor. All of these things add to the expense of production.

It is usually profitable to heat drinking water and water used in mixing feeds, especially in cold weather. This decreases the amount of feed required to keep the body warm.

### Piggy Needs a Shelter

NO ANIMAL on the farm requires better protection from exposure than the hog; none for which a bed is more necessary; none so much in need of sunshine as the little pig. One of the first requisites for success with hogs is a shelter where the young pigs can be kept warm and well supplied with sunshine and fresh air. A little pig takes cold very easily and recovers slowly.

To prevent taking cold he must be kept dry, warm, away from drafts, and be provided with fresh air. Most good hog raisers try to have their spring pigs farrowed in March or early April. Without good warm buildings this is impracticable. Breeders find it necessary to have their pigs come about this time in order to have them large enough for the fall demand.

Early spring pigs have several marked advantages. In the first place there is usually more time to care for them in March or early April. Pigs farrowed at this time are large enough to begin to eat as soon as the pastures are ready, and thus get the longest possible season, or nearly so. Not only can they

make more use of the pasture, but they can make more economical use of the feed, because they will be finished for market before cold weather sets in, when grains are more expensive.

If these pigs are crowded, many of them can be marketed the last of October, and for the last ten years the market for October has averaged higher than for December. Without a good house two litters a year cannot be raised to advantage. This is because the spring pigs must be put off until so late that the fall litters do not get well started before cold weather.

No piggery is fit for the purpose unless it admits direct sunlight to the floor of every pen at the time the pigs are farrowed, furnishes plenty of fresh air, and provides for exercise in the open air. Dryness, sunshine, warmth, fresh air, freedom from drafts, and exercise are important in raising pigs.

### Medicine Chest for Stock

EVERY stockman should have a medicine chest sufficiently well supplied with instruments and drugs to meet emergencies. The chest can be made from any good box, and need not be expensive.

Some of the most necessary articles to be included in the chest are: Scissors, knife, artery forceps, three or four thermometers, metal dose syringe, gun for giving physic balls, gallon can with hose attachment for giving injections, hoof knife, nippers, hoof hook, hypodermic syringe, rasp, bandages, absorbent cotton, and needles and thread.

The chest should also contain some simple remedies. A good antiseptic is necessary. A coal-tar product makes a good antiseptic, and should be used in a two to five per cent solution. Potassium permanganate—one teaspoonful to two gallons of water—is recommended for a milder antiseptic.

Linseed oil is a good physic, but physic balls are more convenient to give, and safer. Epsom salts may be used for cattle but not for horses. In case a quick physic is desired the hypodermic syringe is used and an injection of one grain of arecoline is given.

Two liniments are recommended for the chest. One mild liniment is made from 1 ounce of turpentine, 1 ounce of strong ammonia, 48 grains of camphor gum, 1 to 2 ounces of iodine, and enough alcohol to make a pint of the mixture. A stronger liniment is made from 2 ounces of camphor, 2 ounces of turpentine, 4 ounces of iodine, 16 grains of bichloride of mercury, and 8 ounces of alcohol. If this is rubbed it will cause blister.

If a blister is desired, use 2 ounces of cerate cantharides and 1 dram of bichloride of mercury, or 1 part of cantharides and 8 parts lard.

A good dusting powder is made from 35 parts powdered alum, 13 parts zinc oxide, 1 part boric acid, 1 part phenol, and 1 part camphor gum.

For treating distemper, first give a tonic, then steam the respiratory tract with creosote vapor. This is done by covering a candy bucket with a grain sack in such a manner that the horse's head can be covered with it. Then nearly fill the bucket with hot water to which has been added one tablespoonful of creosote. If any abscesses form, these must be opened and drained, but great care must be taken not to cut an artery. If a swelling does not come to a head, apply a linseed-meal poultice.

For pink eye, first give a tonic and then wash the eyes daily with a saturated solution of boric acid. This is made by adding five cents' worth of boric acid to a quart of water and allowing the boric acid to settle after shaking the mixture thoroughly. Only the clear solution should be used.

### About Navel Ill

MANY colts die every year of navel ill or joint disease. Weather conditions at the time the colt is born have a great deal to do with the colt contracting the disease. If the weather is cold and stormy or cool and rainy, more than the usual proportion of colts are born in filthy box stalls. If the weather conditions are more favorable, more foals are born in pastures, which are much cleaner than the box stalls.

Records of navel ill cases prove conclusively that foals born in locations contaminated by manure are particularly subject to the disease. When a foal born in a pasture contracts the disease it is commonly found that the spot where it was dropped was near the watering trough or feed bunk or some such location where the stock was accustomed to congregate.

Several kinds of filth germs have been identified with the disease, and that is one reason for various differences and symptoms. Another reason is that sometimes germs seem to enter the vein, sometimes the arteries, and again the bladder. Tetanus germs are present in some cases and the foals die of lockjaw.

The best safeguard is thorough cleaning and disinfection of the box stalls in which the mare is to be put as the time for foaling approaches. It should be kept clean so long as the mare and the foal inhabit it. Bacteriological preparations, sometimes called serums but more properly called bacterins, are useful, especially if administered as a preventive instead of a cure.

Some breeders and veterinarians make a practice of giving a dose of bacterin at birth, and another about a week later, whether symptoms appear or not. Some begin on the mare and give two or three doses within a month preceding foaling time. Of course, the freshly severed navel cord should be disinfected, and tincture of iodine or other reasonably strong germicide is suitable for this.

### Feeding Calves

THE success of the calf feeder will depend largely upon his ability to imitate nature. In nature the young calf gets its milk at short intervals at a uniform temperature, and it is always sweet, clean, and wholesome.

The young calf should not remain with its dam for more than three days. The calf should receive the first milk drawn from the udder of its dam. This milk is known as colostrum milk. It is valuable as a laxative. If the cow dies before the colostrum is obtained, it is advisable to give the calf a dose of castor oil.

The stomach of the calf is small and will not hold a large quantity of milk at a time. This makes it necessary to feed it as often as practicable. Over-feeding will cause indigestion, and may result in the death of the calf.

The newly born calf should receive from 8 to 10 pounds of whole milk daily, depending on the size and strength of the animal. The milk can be gradually replaced by skim milk until at the age of four weeks the calf is receiving no whole milk at all.

The milk fed to calves must always be uniform in temperature and sweetness. The calf can be raised on sour milk, but it must be uniform if the best results are to be obtained. Pails from which the calves are fed should be sterilized often. They should be washed each time after using. The protein requirement of the calf will be furnished in the casein and albumen of the skim milk. A substitute for the fat that has been removed can be found in the concentrated foods, such as corn and bran. The calf will be eating enough of this food at the age of four weeks so that it will no longer need the fat furnished in the whole milk. The grain must never be mixed with the milk and fed as a slop, as this will result in digestive disorders.

The calf should receive milk until it is six or eight months old if one expects to grow large calves such as he would if they were allowed to nurse their dams. The calf will begin to eat hay when but a few days old. It should be fed a good quality of well-matured hay, because immature hay is laxative and causes digestive disorders.

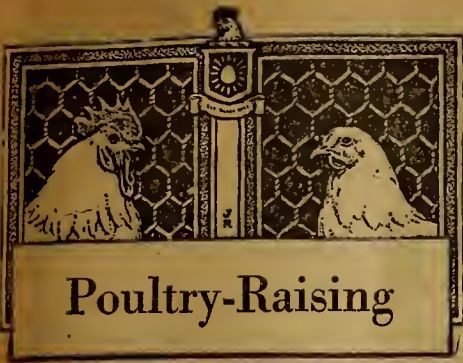
The water which the milk contains is not sufficient for growing calves. Good, clean water should be kept near the calves at all times. If this is not practicable, the calves should be watered from pails at regular intervals. Care must be taken that the calf does not drink too much.

The calf should be kept in a well-bedded stall. The individual pen is worth all it costs, because a case of the scours can be easily detected before it develops far. The individual pen is made just large enough to accommodate one calf. It should be about 3 feet 8 inches wide by 5 feet long. This gives the calf plenty of room and shows it off to advantage to the prospective buyer.



The hog on the left was fed corn and milk; the one in the middle, corn and tankage; and the other one, corn alone





## Poultry-Raising

### New Light on Green Food

By J. T. Raymond

AMONG a half-dozen commercial poultrymen the writer visited last winter each had different ways of handling the green food question, all of them very practical. The consensus of opinion was that when green feed could be obtained cheap enough its use was desirable.

The poultry plant owned by a former president of the New Hampshire Poultry Growers' Association, who happens incidentally to be about the most successful poultryman in the State, carries 700 birds through the winter. Not a bit of green feed is fed to his hens the whole winter through. Bran is a part of the dry mash to the extent of about 35 per cent. This flock keeps in good health, produces fertile eggs as spring approaches, and lays heavily. His December production was 460 dozen, sold at 50 to 59 cents a dozen. Few flocks of similar size can claim such a record.

Another farm, keeping 1,000 White Leghorns, used alfalfa as green feed. This farm grows its alfalfa, and can feed it economically. A third farm fed beet pulp sparingly; a fourth used sprouted oats; a fifth, home-grown mangels; a sixth, inferior cabbage, bought for 50 cents a barrel. Each farm picked the green feed to be had at the lowest cost.

It used to be thought that poultry miracles were wrought through green food. Now its true value is understood, and whether or not a poultryman should feed it depends on the cost to him. If it cannot be obtained except at high cost, the poultry keeper can safely dispense with it. If it is cheap, he certainly should use it.

### Drafting in Acorns

By D. R. Witter

UNDER the stress of the high cost of poultry food I concluded to experiment with acorns. I gathered several bushels of them and pounded them out of the shucks as one would walnuts. I ground the acorns in an ordinary grinder or meat chopper, setting it coarse. I mixed it with the dry mash ration, moistened with buttermilk. I find a moderate proportion—about one to six of mash—fattening and egg-producing, and it takes the place of feeds high in protein, like wheat, meat scrap, and linseed or cotton-seed meal. The acorn mixture seems especially good for ducks.

### Intensive Hen-Housing

UNDER the stimulus of higher price of lumber and building supplies, the practice of housing many more birds in poultry houses with a given area of floor space is much more common than was thought safe and profitable some years ago. It has been found that where several hundred hens are housed in one large building the individual birds really are able to enjoy more liberty to move about, and there is less discontent among them as a result of close confinement than where the floor space allowed

per hen is much greater in small flocks of a few dozen or less.

For example, it is now not uncommon to find 300 to 500 hens kept throughout the winter where the floor space average is not over 1½ to 2 square feet per hen. Under such intensive housing conditions each hen can move about through a building perhaps 20x40 feet, and can better choose congenial company and get away from the bosses than would be possible where a much larger floor space per hen were available for a smaller flock.

When the large number of hens are housed together, prime essentials are cleanliness, sufficient ventilation, light, plenty of feed and water containers, and ample roosting space, so that each individual hen will never lack a chance to eat, drink, and be comfortable at all times. Just as important is unobstructed scratching space, made possible by elevating feed troughs, hoppers, water supply, etc., high enough above the floor and litter to allow easy movement of hens under all poultry-house furnishings.

### Burlap for Nests

BURLAP is valuable material in nest-building. It is not, of course, as permanent as wood, but it lessens cost and simplifies construction. With burlap the common open-top box nests, arranged continuously in rows, can be quickly transformed into dark nests on which hens will not roost. Cut burlap into strips of the width required, and stretch from the outside edge of the nests to the wall, at an angle of about 45 degrees. In attaching to the nests and to the wall, it is advisable to nail through thin strips of wood, as otherwise the burlap is likely to tear out.

With shears, cut in the burlap rectangular holes close to the nest edge. These entrances should be about 8x10 inches. Burlap thus used does not eliminate an undeniable advantage of box nests—ease of egg collection. It does remove a great disadvantage—liability of hens roosting on the nest edges and dirtying nest litter. Moreover, it creates a dark nest, which is always desirable. Dark nests, well supplied with litter, prevent egg-eating.

Burlap can also be used to darken nests arranged under dropping boards and entered from the front side. Here the burlap is cut to make flaps for each nest. The flap is nailed only at the top, hangs to within three inches of the nest bottom, and at the lower edge in center has a triangular hole cut three inches square.

### Shell the Hens

WHEN hens are fed and handled for heavy egg production, and egg-shell material is not furnished in sufficient quantity, there will be fewer eggs laid, and those laid will be too thin-shelled to market safely. The price of one egg will now supply enough shell material to supply a good layer for a year. Are your hens well supplied?

BE SURE to look at the toe nails of the year-old and two-year-old hens being selected to hold over for next season's breeding stock. The hen that has worn her nails blunt and short has not been a loafer, and if the other well-known signs are in her favor, she is worth a place in the breeding pen. The blunt, short toe nails are a good indication on the cock birds as well.

DAMP houses, especially if dark and lacking direct sunlight, moldy litter, and filthy nests and roosts are conducive to disease. Chicken pox finds a good breeding place under such conditions. Clean up, and "let a little sunshine in!"



A section of poultry house where the floor space is less than two square feet per hen. Although in close quarters, the birds are thrifty

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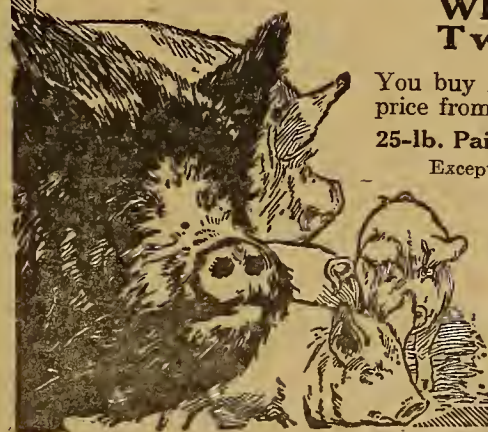
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# Trapping Minks

By RICHARD K. WOOD

THE mink is a shrewd and cunning little animal found in most sections of the country. It is not such a dummy as the skunk or muskrat, yet is not hard to catch when its habits and peculiarities are known. The mink is a great traveler, sometimes going as far as ten miles in a night searching for food, and always keeping close to water courses. They will invariably explore every hole, hollow log, and den in their course of travel, and this habit is taken advantage of by the trapper. One of the most profitable sets is to dig holes back in the banks of a stream and bait them up—preferably with fish—in advance of the trapping season, and get the minks accustomed to visiting them. They have a keen sense of smell, so the trap should be set in a few inches of water whenever possible.

The standard size trap for minks is the No. 1½, although a good No. 1 will hold them. It pays to use a trap that is sufficiently strong to hold these animals, as they are not only sly enough not to often get caught twice but have a valuable pelt that is well worth the greatest care necessary to secure it.

Often sets for minks must be made in narrow places, in hollow logs, and small holes in drifts, where a trap of the jump pattern is necessary. Sets should be made at the mouth of all tiles, ditches, and small streams that empty into a creek or river. It is a good idea to use a boat, or wade, wearing hip boots, so as not to walk on land when making sets near the water. The trap should be as free from rust as possible, and in every instance should be completely concealed from view when making the set. Water dashed over the set will destroy the human scent left.

Minks do not take bait very well in the early winter, owing to the fact that they can catch plenty of live food. At this time blind sets made in their trails and such places as are frequented by them will prove most effective. Later on in the winter, chickens, rabbits' heads, and fish will prove alluring. Fish oil is also used with some degree of success.

## Cutting Fence Posts

By John Jones

THE proper time to cut fence posts can best be judged by the practices of large industrial concerns which use great quantities of such kind of wood. Railroads, in buying large quantities of ties, specify in the contracts that the trees shall be cut between November 1st and March 1st.

Cutting fence posts in these months is seasonable work. More important, this is the seasonable time of the year to cut fence posts. The wood will dry more slowly than it will at any other time of the year, and this will allow the post to dry in a natural way.

When a post dries properly, the drying is slow enough to allow the moisture to escape through the ends. If a tree for fence posts or any other purpose is cut out of season and dries too rapidly, the result is season checking or cracking.

The reason is that in addition to drying out through the ends the outer surface of the post also loses moisture, but in much larger quantities and more rapidly than is the case with the interior wood. With the drying it must shrink, and the result can only be large cracks in the tissue, reaching sometimes to the heart of the stick, and rendering the product almost worthless.

Fence posts made from heavy-bark trees should be peeled before they are set, according to the state forester. The bark fits loosely and allows moisture to collect beneath it. This is a favorable condition for the development of fungus which will soon rot the post.

It is not necessary to peel the bark from catalpa or hedge posts. It shrinks and sets with the post as it dries, and is not objectionable.

Experiments in post-preservative treatment have been carried on by several of the state experiment stations as well as by the Forest Service of the United States Department of Agriculture. It will take years to determine the full value of such treatment, but even now the condition of the treated posts warrants the statement that the preservative treatment is entirely practical. Good results will be obtained in the treatment of the posts of native woods which are ordinarily short-lived and unsatisfactory.

The ash and elm that grow along the borders of streams make posts, when treated, that will last longer than the white cedar posts that are sold at the lumber yards.

Beveling the tops of posts aids in in-

creasing the durability of the wood by preventing the excessive absorption of water. Large soft-wood posts with flat tops will absorb much moisture, and often it is here that the first evidence of decay is found.

## Freeing Field of Cockleburrs

EVERY farmer who has had experience knows how difficult it is to free a field of cockleburrs. The roots extend deep into the ground, are very tough and fibrous, and recover from wounds that kill almost all other vegetation. The plants, too, may be torn almost to shreds and yet live and develop seed. The seeds, also, are very virile, lying in the soil for months, waiting a favorable chance to germinate. In addition to all this, the seeds are readily scattered by being transported here and there on the bodies of animals. Of all the disagreeable weeds that may establish themselves on a farm the cocklebur is assuredly the worst.

A number of years ago a field owned by the writer became infested with this weed through the pasturing of sheep. The weeds became so bad that it was scarcely possible to produce any other crop on the ground, for cockleburrs are such greedy feeders that other crops stand scarcely any chance. Ordinary cultivation proved ineffective—the weeds could not be plowed out.

After enduring the nuisance three years I determined to get rid of the weeds. The plan adopted required determination and patience. The field was planted in corn and cultivated with extreme care to plow out the little weeds as they came up. When the corn was about waist-high, the field was carefully gone over, a row at a time, and the surviving weeds pulled out by hand. This did not prove such a long task, as eight or ten acres could be covered in one day. The same outlook was maintained in the subsequent two or three cultivations. In July, after the corn was laid by, it was gone over again in a careful search for weeds that had escaped or had recovered. Of course, quite a number were found. The same search was repeated again in August.

The following year quite a number of thrifty plants appeared in spite of the previous year's precautions. These were promptly destroyed. After this there was no more difficulty with the pests, for they seemed to have been conquered. I am convinced that only determination and patience will effectually free a field from cockleburrs once they become firmly established, also that pulling by hand is the only effective way to remove the weeds entirely from the soil.

## Cultivate the New Trees

TREES planted last spring will demand as careful cultivation next spring as any field crop. It is unreasonable to expect newly planted trees to compete successfully with native plants. The cultivation need not be deep but must be thorough. Newly planted trees require protection against injury by the sun, wind, and animals.

Because evergreens are in full foliage when planted, there is danger that they will suffer from the effect of excessive transpiration. To guard against this a screen of some kind should be used. When only a few trees are involved, small boxes with their tops and bottoms knocked out or empty nail kegs will serve the purpose.

For extensive planting, as in groves and shelter belts, short pieces of light boards from 6 to 8 inches in width, driven into the ground a few inches from the tree on the southwest side, provide excellent protection. Some protection of this nature is necessary during the first month or six weeks after the evergreens are planted.

The broad-leaved species will require no special protection, except from rabbits. Their stems should be wrapped with burlap, grass, cornstalks, or wooden veneer tree protectors. Live stock of all kinds must be absolutely kept out of the area occupied by the young trees.

When leaf-eating insects threaten, the trees should be treated with an arsenical spray. To protect against borers, the stems of the newly planted trees may be painted with a saturated solution of sal soda, to which enough laundry soap has been added to make a thick paint. Carbolic acid is then added to this mixture at the rate of one pint to ten gallons. This should be applied frequently enough to keep the stems completely coated from the first of May to the middle of August, during the first and second seasons.

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### Kerosene in Radiator

By S. R. Winters

**“WOULD** you advise the use of kerosene instead of water in the radiator of an automobile for winter,” writes a reader; “and if not, why not?” Kerosene will cause the rubber hose connections to rot and leak. Furthermore, it does not have the cooling properties of water, and the engine is likely to overheat, causing the radiator to steam and boil. Some users who have tried kerosene for cooling also claim that it causes rust and clogged tubes. On the whole, it is an unsatisfactory substitute for an alcohol-and-water mixture, disagreeable to handle, and probably injurious if used for any length of time.

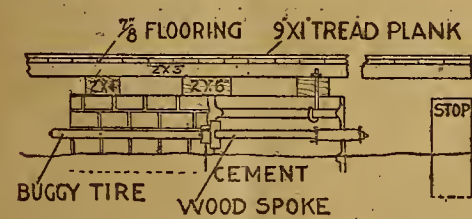
### Oil-Can Top Lets Air Out

**SOME** days ago a tourist with a big “six” stopped where I was working. His tire was down. After he took the tube out of the casing I expected to see him take the core of the valve out to get the air out of the tube before patching it. But he didn’t do that. He found the hole and stuck the top of a little oil can in the nail hole, and as he pushed it in further the air went down in a hurry. He kept this in his repair kit for no other purpose. Any tube that is funnel-shaped and about an eighth of an inch at the small end would do as well, but the top of a small oiler is just right.

### Turntable for the Farm Garage

By Charles Taylor

**THE** garage space on the farm was formerly a carriage shed adjoining the shop, and is provided with a heavy plank floor. As but a limited amount of room is available for backing the machine out of the building, a turntable device was needed, and after numerous experiments the following successful arrangement was devised. It has been found amply stout to support the weight of a medium-priced car with a wheel-base of 112 inches:





*This is the love story of a woman who hated to cook, and of her unconventional wedding breakfast*

# A Thanksgiving Husband He Lands Most Unexpectedly at Lorena Green's Gate

By MARY BARRETT HOWARD

"CERT'N'Y do think, Mrs. Jones," observed Mrs. Todd, "that Loreny Green is the queerest cretur the Lord ever made."

Mrs. Jones, a neighbor who had "dropped in" to spend the day, at once became interested and alert, for Miss Green's eccentricities had for many years been the subject of mild scandal among her acquaintances.

"There she goes now," Mrs. Todd exclaimed the next instant, "traipsing off to the bakery, I'll bet, to buy some of them greasy pies or soggy cakes I wouldn't give stomach room to. Loreny ain't lazy," she went on, as she slammed the oven door on a peach shortcake of great magnitude, "for her house shines, it's so clean, and she al'ays looks neat as a pin. But she jest won't cook—there ain't a real good meal of victuals been cooked in that house since she bought it ten years ago."

"Praps she can't afford to live different," suggested Mrs. Jones.

"You know as well as I do, Ann Jones," retorted Mrs. Todd, "she could live on hulsome home-made food for half what she pays for baker's stuff, specially since the war's sent prices kitin' up to Heaven alone knows where. Besides, cold victuals ain't fit for a steady diet—Loreny's gittin' scraggier and sallerer every day she lives."

"Mebbe she likes 'em better," Mrs. Jones ventured. "No, she don't, neither; there ain't nobody enjoys a han'sum meal o' hot victuals more'n Loreny Green does. Here she comes back again. I'm a-goin' to call her in to dinner, an' after dinner I'm a-goin' to ask her, right out, what she means by livin' like a heathen. I've had it on my mind to do it for years, but somehow I ain't quite got to the p'int—Loreny's so kind o' stiff an' standoffish 'bout her own affairs."

"Land, I wouldn't if I was you," Mrs. Jones demurred. "She'll be madder'n hops."

But further remonstrance was cut short by the entrance of Miss Green, a fragile little woman who would have been pretty, in spite of her forty years, if Mrs. Todd's disparaging remarks had not been justified by the facts. Miss Green was undeniably both "scraggy" and "saller." She greeted her two old friends with a smile that had in it a touch of wistfulness, a touch of pathos, and accepted Mrs. Todd's invitation with evident pleasure. Moreover, when dinner was served she partook of the corned beef, boiled potatoes and cabbage, and peach shortcake with a relish that caused her hostess to nod triumphantly at Mrs. Jones.

When Mr. Todd and the four children had departed on their respective ways to shop and school, the guests helped Mrs. Todd "clear up" with such good will that the kitchen was soon restored to its usual state of spotless order, and after Lorena had run across the garden to fetch her "pick-up" work—a sweater destined for some soldier in the trenches—the three women settled down to rock and knit in the pleasant living-room. After a bit of harmless preliminary chat, Mrs. Todd cleared her throat in a manner that caused Mrs. Jones to twist uneasily in her chair. But the former lady prided herself on what she called her "tack," and she began by remarking tentatively:

"Say, Loreny, I'd feel a sight safer about you if you was married. 'Tain't safe your livin' all alone so. The Smithses was tellin' me only t'other day that they'd had some more meat stole out o' their shed room, an' they're sure there's burglars round."

"I guess if the Smithses wa'n't quite so skimpin' with that poor, lean dog o' theirs they wouldn't have no call to set a trap to catch burglars," replied Lorena calmly. "An' if there *was* burglars round, them that thinks husbands is a means o' safety is welcome to 'em. I had a cousin once removed on my mother's side," she continued, carefully picking up a dropped stitch, "an' one night she an' her husband woke up an' saw a burglar standin' right over 'em. He told 'em, civil, to keep still or he'd shoot. My cousin, like any other woman on the face o' the earth would 'a' done, covered up her head with the bedclothes and kep' still, but her husband was so abundantly foolish as to jump right at the burglar's throat. The bullet struck the head-board just half a inch above my cousin's pillow. It was the Lord's mercy she wa'n't killed—not no fault o' her husband's. Thanks be, if I've got to have burglars in my house I haven't got no husband round to be riskin' my life with his forthputtin' ways."

"MEN are awful brash, that's a fact," Mrs. Todd admitted. "But they're kind o' handy to have round when it comes to shovelin' snow an' carryin' in coal. But anyhow, Loreny, Mis' Jones an' me said a thousand times, if we have once, that you couldn't get a husband if you wanted one."

At this base annexing of her as an accomplice, Mrs. Jones looked both alarmed and indignant, while Lorena's sallow cheeks flushed, for no woman under eighty could listen to such an aspersion unmoved.

"Ann Jones an' me," continued Mrs. Todd, "have talked till we're all wore out tryin' to convince folks

that 'tain't cause you're too poor or too lazy to get 'em, that you don't never have a decent meal o' victuals cooked in your house. But to tell you the truth, Loreny, we're jest flabbergasted ourselves to think you can't live like a Christian. It's a shame! There's as likely a mess o' widder men in this town as you'd find anywheres, an' more'n one of 'em's looked at you pretty sharp since you got that last new hat, though to my thinkin' lavender ain't a mite becomin' to a saller-complected person like you're gettin' to be. But that's nyther here nor there, for no man alive's goin' to run the risk o' starvin' to death by marryin' you."

During this arraignment Lorena had been putting her knitting into the bag in which she carried it, with hands that trembled visibly, and she now faced her accuser with angry eyes.

"I never suspicioned before that I was a scandal an' a byword among them that pretended to be my friends," she cried. "But if you want to know the reason I live the way I do, you can. My own mother died when I was born, an' my step-mother was one of them stavers for work who never spare themselves nor nobody else. We lived on a farm and we boarded the farmhands. I could stand the rest o' the work, but the cookin' most killed me, specially durin' harvest, when there was sixteen o' them to feed. So ten years ago, when my father an' step-mother both died o' typhoid the same week, I sold the farm, come here to live, an' vowed I'd never do any more cookin' for myself nor for nobody else."



"My crutches—tout de suite, quveek! The gravy burns: all is lost!"

She ended with a storm of tears and rushed from the house, although Mrs. Jones tried to detain her by ineffectual clutches at her skirts. Mrs. Todd rocked on unconcernedly.

"I told you she'd be mad," wailed Mrs. Jones with keen reproach.

"Don't care," said Mrs. Todd coolly. "She'd ought to know how folks regard such heathen ways. When she's had time to calm down a little mite we'll go over an' set a while."

But when they attempted to carry out this plan the little white cottage across the garden seemed hermetically sealed, and even the intrepid Mrs. Todd was foiled in an attempt to force an entrance through a window, for she found them all locked. Lorena, cut to the heart, was enduring what most of us, unless we are so unfortunate as to number among our acquaintances some frank and fearless soul like Mrs. Todd, are mercifully spared. The scorching spotlight of neighborly opinion had been turned full upon her, and, in its lurid glare, what had seemed to the little spinster a harmless recompense for past suffering had become an irreparable disgrace.

That night she could not sleep, and as she lay, rest-

lessly tossing and turning, in the stillness of the hour before dawn, there came the rush and roar of an express train thundering through the quiet town. The next moment Lorena heard a terrible crash, followed by the still more terrible sound of human shrieks and groans.

"Oh, my soul! Oh, my soul!" she gasped. "The train's gone through that trostle; I always knew it would."

A particularly high trestle, just back of Lorena's garden, had in truth been the subject of many dire predictions among the dwellers in Akron.

LORENA lighted a lamp, hurried into her clothes, and flung open her kitchen door upon a group of men bearing an object so covered with dust and blood that it had little semblance to anything human. In a voice quite unlike his usual drawling accents, Mr. Todd called excitedly:

"He's the worst hurt of any of 'em, Loreny, so we brought him to the nearest house."

"Oh, ain't it awful!" cried the little spinster. "Is he dead?"

"Pretty nigh, poor feller," one of the other men answered gravely.

"Bring him right in here," she commanded, ushering them into her little spare chamber. They laid him gently on the bed and then hurried off to look for other victims of the wreck. Mr. Todd lingered for a moment to say: "Doctor Thompson's over to our house patchin' up some that ain't hurt so bad as this one. I'll send him right over."

"Tell him to be quick," quavered Lorena. Faint moans were heard from the unconscious man and Lorena's tender heart was rent. She bent over the bed distractedly, and then pulled herself together.

"I'll blaze a fire in the kitchen stove, an' get some water good an' hot. Then, if the doctor ain't come, I'll wash the blood an' dirt off his face, an' pour that big bottle o' witch hazel over him. I don't know where he's hurt, but it might hit the right spot, an' it's awful healin'."

But before the water was hot, Doctor Thompson, big, cheery, and efficient, arrived, and Lorena breathed a sigh of relief. The doctor looked very grave, however, when he came out of the little room with his assistant an hour or so later.

"The poor fellow has regained consciousness," he informed the group of men and women assembled in Lorena's living-room, for the other passengers had proved not seriously injured, and in consequence Lorena's home had become the center of interest. "He's a Frenchman by the name of Jean Bouligny. He tells me that he's a chef at the Huron in Buffalo, and he had word yesterday of the sudden death of his mother, who was visiting in Erie. He was on his way there when the accident happened. He and the old lady came from France a few years ago, and he has no other relative in this country. I hardly think he'll pull through—and if he does he may have to lose his right leg, for the knee is badly crushed. He ought not to be moved. Do you think you could keep him here?" he asked, turning to Lorena.

"Oh, yes, indeed," she replied, with tears in her eyes. "I'll be glad to do anything I can for the poor man."

"We'll all help," the other women assured her. And in fact, during the weeks that followed, Lorena's labors were light, for kindly neighbors undertook the night-watching, and the invalid was supplied with quantities of delicious soups and jellies prepared by the best cooks in town. Jean Bouligny did not die, and Doctor Thompson saved the injured leg from amputation.

It was during the long, tedious convalescence that Lorena's troubles began. Public interest in the invalid was no longer at fever heat, and one day Lorena, like Old Mother Hubbard, went to her cupboard and found it bare. Long ere this the pity that is akin to love had done its work. Lorena had forgotten her vow never again to become the slave of a cookstove, for the patience and good humor of the comely Frenchman had made a deep impression on the little spinster, and she was glad to expend herself in nursing and feeding him. But, alas, the long years of disuse had deprived Lorena Green of the small amount of culinary skill she had formerly possessed. She could not even make toast or boil potatoes properly, and as to the decoction she called coffee, the fearsome brew compounded by the witches of Macbeth could scarcely have more offended the critical palate of Jean Bouligny. Patient and grateful though he was, a particularly badly cooked meal was the proverbial last straw that brought matters to a crisis. Coming to take away his tray, Lorena saw that his dinner had been barely tasted.

"Didn't you like your dinner, monsir?" she asked anxiously.

Although Jean spoke fair English ordinarily, in moments of excitement his command of it gave way altogether, and he now exclaimed explosively, in a peculiar mixture of his native [CONTINUED ON PAGE 25]



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Even in the home of her childhood this girl of the adventurous heart finds big things to do

# Runaway Julietta

## She Goes Back to the Valley of the Purple Hills

By ARTHUR HENRY GOODEN

PART IV

**C**RUSHING one of the grapes between her teeth, she felt the tang of it thrill her. Yes, she must go back to La Vina—back to the valley under the purple hills! The call was this time irresistible.

She stepped from the car and entered into the cool of the house. It was a roomy and comfortable house, with many French windows opening on to broad galleries, and throughout the past year its building and furnishing had kept Julietta busy and happy in her new life; idle, she could never be. It had been Morrow's suggestion that Mrs. Drake share Julietta's home, acting as companion, chaperon and friend. The arrangement was a happy one, and Mrs. Drake had long since secured Julietta in an enviable social position.

Julietta, the basket of grapes still in her hand, passed through into Mrs. Drake's sitting-room, which overlooked the barranco.

"Aunt Helen," she said abruptly, "I think I'll phone Uncle Paul to come out for dinner to-night. I have a great big piece of news."

"News?" Mrs. Drake glanced up, a sudden pallor about her lips. "News? About—you and Paul, you mean?"

Julietta affected not to catch the obvious meaning of those words. Something in the older woman's face struck through her in a cold sense of realization.

She turned and sought her own room, breathless with the surprise of that which she had seen in the eyes of Mrs. Drake. She was startled, awed, frightened, and a little angry.

Why had Paul Morrow never seen that—that Helen Drake loved him? Why could he not love her instead of loving Julietta—poor Lizzie Dare? During the rest of that day this thought dwelt unshaken in Julietta's mind.

That evening, however, as she had quite expected, Morrow heard Julietta's announcement of her intentions with his kindly, non-protesting smile. The past year had developed in him a trait of concealment almost Oriental.

"Why, yes," he answered. "I've been expecting it. The longing to go back is certain to come to all of us, Julietta."

"It was those muscats," she said, and laughed. "The sight of them brought everything to me again—oh, you understand what I mean, Uncle Paul!"

"This society business is too easy for you; that's the trouble. You're beautiful, clever enough to keep your beauty from making enemies, and you've a charm that attracts. People like you from the start," Paul chuckled; "the men especially."

"A lot of sillies!" declared Julietta.

"You don't find flirting interesting?"

"If it would only stop at flirting!"

"Mm! The young rascals! Well, no one can blame 'em for falling in love with you."

Julietta glanced out at Mrs. Drake among the roses.

"Why don't men fall in love with the right women?" she exclaimed half impatiently. "It would save a world of bother!"

Again Morrow stirred uneasily, and bit into his cigar.

"Yes," he said quietly. "It'd save a world of bother."

Julietta inspected him, a lazy smile playing upon her lips.

"And what a lot of romance would be spoiled!" she said mockingly. "After all, I suppose things are for the best. There'd be no struggle, no effort, no—no self-denial; without these life would be tame. That's why I like business—there are things to be overcome." She paused. "Life, after all, is real business, isn't it? I can't just play at it. That's why mere society bores me, Uncle Paul."

"Then you regard this visit to La Vina as business?" Morrow threw her an amused look.

"No," she laughed. "But it's obeying a natural impulse, and I consider that as part of the business of life."

"I'll miss you," he said with a sigh.

**H**E SETTLED back in the depths of his chair, and for a space neither spoke. Suddenly Paul leaned forward, his face whiter than its wont.

"Julietta," he said quietly, "perhaps you'll despise me for it—perhaps I'm ridiculous—but I don't care." He paused, and under the touch of premonition Julietta felt cold. "No, not ridiculous; it's not ridiculous to love, and—and I—I love you."

Mere words seemed terribly inadequate. There was nothing Julietta so desired in the world as the happiness of Paul Morrow, but his happiness, it seemed, depended on something she was powerless to give. She bit her lips, but could not check the tears that crept to her cheeks.

Watching her intently, Morrow saw those tears—and understood. He came to his feet.

"Forgive me," he said huskily. "I might have known—"

"But I—I do love you, Uncle Paul," she said tremulously. "I do—"

"Thank you, dear." He spoke gently. "Of course you love—your Uncle Paul—"

He turned, and walked slowly into the house.

**T**O JULIETTA'S eyes La Vina was much the same, only dingier—the old hotel, the miserly post-office, the ramshackle livery stable, the gnawed hitching posts. Concrete sidewalks and two flagrantly new buildings—the La Vina Bank, and the emporium of Rosenbaum & Kline—alone flaunted prosperity abroad.

As the train pulled out, Julietta was still gazing around, when a voice at her elbow made her aware of a pair of shrewd pale blue eyes appraising her.

"Lookin' for anybody special, Miss?"

"Not especially," said Julietta coolly. "Were you?"

The man, who was short and stout and of an age

was growing late. La Vina's banker looked after her dubiously.

"Hm! Old Wurrell's niece, eh?" he muttered. "Her looking that dressed up—like an actress! I wonder, now, if she knows about—" He shook his head and turned away.

Julietta had hard work to find a horse and buggy, for the whirr of the automobile was in the land; but at length she was satisfied, and drove forth gleefully. How well she remembered that road! With wondering pity she recalled how, the last time, her little bare feet had trodden its dust. She marveled at the daring of her innocent ignorance and, marveling, felt upsurge within her a great wave of thankfulness for that meeting with Paul Morrow.

The sun plunged behind the mountains, the heated horizon cooled, a lop-sided moon took outline. Cottonwood Creek was brimming. The alfalfa fields were under irrigation; a long-legged curlew flew away with a harsh cry. Standing motionless on a distant levee was a high-booted Chinaman leaning on his shovel,

his head bent, listening for the gurgle of water in some gopher hole. She passed the great cottonwood tree which had witnessed the sale of her duck to the Chinese peddler and her good-by to Clay Thorpe. Clay! Her heart quickened. The tree was larger now, and she smiled in the whimsical wonder whether it recognized in her the little barefooted Lizzie Dare. And so she came at last to Wurrell's gate.

As she swung around the curve of the driveway and sighted the twinkling lights of the house where she had been born, a pack of hounds greeted her clamorously, and the uproar gave warning to those within.

A door opened and a man appeared on the veranda, harsh voice upraised in quieting command to the dogs. Even in the darkness Julietta recognized the tall, gaunt, stooped figure of Jim Wurrell, and a sudden revulsion waved over her. Helplessly she sat in the buggy staring at that forbidding figure. It was somehow different—

"Who is it?" Wurrell came out, peered at her suspiciously under his hand. "What d'ye want?"

"I'm—I'm Lizzie," was all she could say. For the moment she felt herself indeed Lizzie once again, cowed, repressed.

"Hey!" Wurrell stiffened and his chin thrust out. "Lizzie? Lizzie who?" In his harsh voice was a startled note that surprised her.

"Lizzie Dare," returned Julietta. Her poise swept back as she remembered how in reality she was not "Lizzie" at all; she was Julietta, rich, self-reliant, a grown woman. Her tones rang out in a buoyant laugh. "Why, Uncle Jim, I believe you don't know me yet!"

"Lizzie!" he repeated. There was something in his voice that struck her unpleasantly—a hint of fright, almost of terror. The steps creaked as he came down them. Julietta sprang out and extended her hand, but he only stood

staring blankly at her.

"Lizzie, hey?" he repeated again. "Lizzie, is it?"

"Who else?" she laughed. "How's Aunt, Uncle Jim? Is she home?"

He nodded sullenly. His lips parted from long, fang-like teeth in what was apparently intended for a welcoming smile.

"It's little Lizzie, ain't it?" he said awkwardly. "All growned into a fine lady!" He held out his hand now. "Well, well, I'm right glad to see ye! Yes, your aunt's to home, and I expect the sight o' you will lay her flat with surprise." He lifted his voice in a sudden bellow. "Hey, you Jake! Come an' tend to the horse here!"

Another man appeared in the doorway and slouched down the steps.

"Come right in, Lizzie!" Wurrell turned, took her suitcase, and lumbered before her.

Mrs. Wurrell was seated in a rocking-chair, nursing one hand in the other. She had grown quite stout, Julietta observed; her face was lined, her eyes dull. Wurrell addressed her with a backward nod at the girl.

"Here's Lizzie—come back," he said briefly.

The dull eyes of the woman seemed to waken with the same fearing look that had been his. She made no motion to rise, but Julietta brushed past her uncle and impulsively kneeling, threw her arms about her aunt.

"Oh, I'm so glad to see you again!" she cried.

"Be careful o' my arm!" Mrs. Wurrell recoiled. "It's bad."

Julietta straightened up, abashed. "I'm sorry—" "So you're Lizzie." Mrs. Wurrell looked her up and down. "Who'd have thought it—you was that homely as a child!"

"Was I?" asked Julietta meekly. "I've got a terrible spell o' rheumatism, else I'd



Fitzhorn stared amazedly. "You—old Wurrell's niece?"

somewhat past forty, stepped back and lifted his hat.

"Excuse me!" He smiled with the words. "Just thought I might be of service to a stranger."

"Oh, I'm not a stranger, Mr. Burt!"

Burt scrutinized her, frowning. "No? Well, now, I thought I knew all the folks in forty mile—" he finished with an apologetic cough.

"You seem progressive," said Julietta, nodding toward the bank. "That's a fine new building you have!"

"Not bad," and Burt grinned slyly. "You've put one over on me, I guess—"

"Little girls will grow up," said Julietta lightly. "I'm Lizzie Dare—used to live at the Wurrells' ranch."

Mr. Burt did not remember her, that much was quite plain. As he hesitated, Julietta bade him farewell and started across the road, for the afternoon

### The Way It Began

**B**ECAUSE there was no love for her in the hearts of the aunt and uncle who grudgingly took charge of her when her parents died, Lizzie Dare ran away. She bade good-by to Clay Thorpe, her one friend, boarded a train, and there was adopted at first sight by Paul Morrow, a great-hearted drummer. He educated her, and she insisted upon going into a business career. She lands a contract for a million pairs of shoes for the Japanese army, but the Leather Trust refuses to furnish the leather to make them, and Morrow is ruined. Julietta teaches school, accidentally discovers an oil well, and at Morrow's wish leaves business for the life of a society girl. A bunch of grapes raised in her childhood home makes her suddenly homesick.



get up and act more glad to see you. Jim," she added irritably, "set a chair for Lizzie, can't you?"

Julietta pulled out her hatpins. "Don't bother, Uncle Jim. I can make myself at home. Do you suffer much, Aunt?"

"Suffer? O' course I suffer!" Mrs. Wurrell's voice rose querulously. "Pears to me you might have wrote us sometimes. You might ha' been dead an' buried for all we knew."

Julietta colored, the voice and tone bringing back old days again. "Married?" came the question with a snap.

"No."

"Where'd you get all them fine clothes, then?"

"Earned them, of course."

"Oh! Honest earnin's, I hope," and Mrs. Wurrell's lips tightened virtuously. "There's some folks wearin' fine feathers as can't say they come by them honest."

"Yes, honest earnings." Julietta caught her aunt's eye, and under her gaze Mrs. Wurrell flinched visibly. "Where's Maggie? At home?"

"Maggie's married," was the curt answer. Jim Wurrell, whose face had suddenly reddened, broke into the conversation.

"Better have a bite to eat, Lizzie, afore ye start back."

"I'm not going back, Uncle Jim. I've come for a visit."

THIS announcement caused a visible flurry, but Julietta overlooked it. She chattered on, resolutely downing the unpleasantness that stabbed her, and resolving to make these two feel at ease with her. Under Mrs. Wurrell's directions she rummaged in the pantry, and soon was satisfying her hunger.

"I met Mr. Burt in town," she said after a little. A quick, startled look passed between the Wurrells.

"Expectin' you, was he?" queried her uncle, his little eyes peering sharply at her.

"Me?" Julietta glanced up in surprise. "Expecting me? Why, he didn't even know me!"

"Andy Burt's mighty slick," observed Wurrell ponderously. "Makin' a mint of money too. Ain't never been married, Andy ain't." He favored his niece with a wink.

"You, Jim!" snapped his wife pettishly. "What you mean, puttin' notions in the girl's head?"

"Shucks, Ma, let a feller have a piece o' fun, can't you?"

"You get my crutch," she retorted. "I'm dead tired. Ready for bed, Lizzie?"

Julietta was not, but she assented meekly.

She felt suddenly tired, depressed; she wanted to be alone. It hurt her to think that these people were her own kith and kin. She was trying to love them, but they made it hard.

The room they gave her had been Maggie's. She remembered the same hideous green iron bed, the same green wall paper with the pink roses, the same strip of rag carpet, the same washstand with its broken-handled pitcher. She wondered at the shabbiness of it, when the ranch had seemed so prosperous.

For some time she lay on the lumpy mattress, wide-eyed. She had had one question to ask, but she had not asked it. She preferred, somehow, to find out for herself about Clay Thorpe.

JULIETTA arose with the dawn, and found her uncle in the stable, superintending the feeding of the work stock. He greeted her affably.

"Aimin' to eat with us men-folk? Ma don't usually eat till we're off with the teams."

"I wanted to see how things looked," nodded Julietta. "I haven't even thought about breakfast yet, I was so eager!"

"Mebbe ye'd like to take a ride," he suggested, jerking his thumb toward a bay mare in one of the stalls.

Five minutes later she was riding out, and slowly cantered down the driveway, every atom of her body aglow. The morning was perfect, the flawless sky deeply and coolly blue, in the air a subtle tang of fruit and hay.

Turning into the county highway, Julietta galloped joyously along, drinking in the freshness of the morning; almost unconsciously she turned into the old road leading into Cottonwood Creek. At the ford she paused, the mare fetlock-deep in water, to glance around with misty eyes, recognition warm within her.

Suddenly a gunshot cracked out close at hand, followed by a second, and a flock of wild ducks rocketed up and over the willows. The mare jumped, and a startled cry broke from Julietta. Then, as she quieted the plunging animal, the willows parted aside with a crash, and through them came a man—tall, sinewy, eager-faced, a cork helmet pushed carelessly back on his head to reveal thick

[CONTINUED ON PAGE 25]



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**"Wear-Ever"**  
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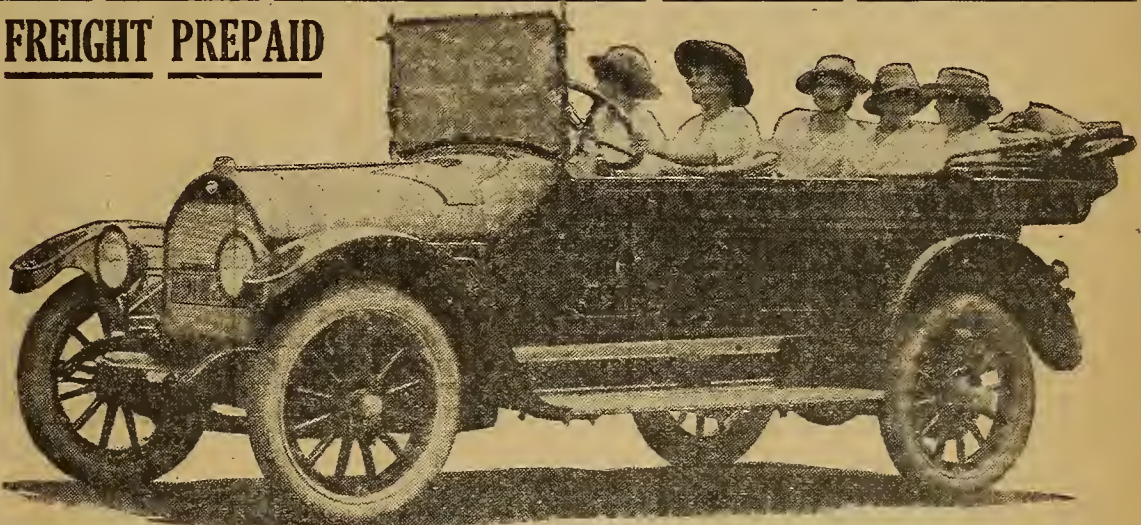
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### Mail the Coupon—Don't Delay

Do you suppose Mrs. Bishop, or Mr. Halbert or the other people pictured here would now be owning automobiles if they hadn't answered my advertisements? You have even a better, more liberal opportunity before you NOW than they had—the cars this time are later, more expensive models than I ever gave before. And more of them. Picture yourself in the near future at the wheel of the magnificent Overland "Light Six"—yes, YOURS without a cent of cost. Then make this dream actually come true. Surprise your friends by winning one of these new cars. Be quick—you run no risks—send the coupon TO-DAY.

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Dept. 8

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GENTLEMEN:

When you told me I was the winner of the Overland, I could hardly make myself believe it. To say that I am just as happy as I can be would be putting it mildly. Please accept my heartiest thanks for the splendid way you treated me and for the handsome prize I so easily won.



Yours truly,  
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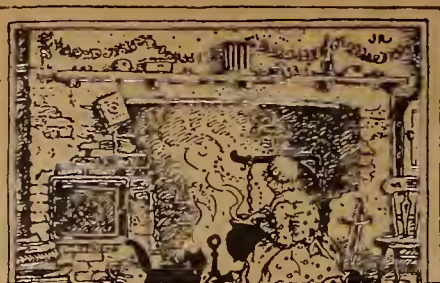
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## Housewife's Club

### Self-Help in Home Plumbing

By Mame Griffin Dunn

EVERY country housewife should be familiar with a few first-hand aids when her plumbing system balks, not alone for economy's sake, but also as a preventive against any menace to her health or the family's.

As a first precaution she should insist on pipes that are out in the open. Any plumbing that is boxed from view may unknowingly become a hotbed for infection. No matter how unsightly pipes may be, a coat of white paint will make them presentable.

Many housewives believe that as a kitchen sink or bathroom grows old, slight objectionable odors are unavoidable. This, however, is a fallacy. Any hardware merchant will advise you as to the necessary lye or scouring preparations which will keep your toilet, sink, and lavatory in a sanitary condition the year around. If you wipe the porcelain every day with a cloth dipped in kerosene, it will remove all stains and dirt, and you will have to use the other preparations only occasionally.

A leak may seem trivial, but in reality it is a deadly menace and should receive immediate attention. A little cement or lead paint will sometimes stop the trouble at once, though this is usually a case that requires the plumber's knowledge. Stoppages in sinks, toilets, and basins are just as dangerous, but this is very frequently a job that the housewife can manage herself. Sometimes the trouble can be dissolved away, sometimes it can be soaked away, and not a few times it has to be pushed away.

If the trouble seems slight, flush it well with scalding water in which baking soda has been dissolved. A good handful of soda to each quart of water is none too much. If this doesn't do the work, take a piece of strong wire and bend it so that there is a hook on the end. Lift out the drain, insert your hook and coax the offending obstacle out. It will usually be found to consist of a tangled mass of hair and lint from towels. Though usually effective, nine times out of ten, the tenth time must be satisfied also. Underneath the lavatory, the sink, and most toilets, is found a gooseneck, called the trap. If you look close enough here you'll find a stopper which unscrews without any trouble. Place a large pail under the trap, unscrew the stopper, press from above upon the mass in the pipe, and enjoy a complete sense of satisfaction when you hear it drop through into the pail.

### How to Prevent Stoppages

Stoppages in drain pipes can easily be avoided if all the family is careful to prevent the entrance of hair and lint into the basins and bowls. Again, the main cause of stoppages in sinks is an accumulation of grease. Pipes should be flushed frequently with boiling water in which a handful of soda has been dissolved.

Leaks from a faucet, usually due to a worn washer, can easily be remedied at home by the housewife, yet a plumber will charge a good wage if called in. Washers can be purchased from any hardware store or, in an emergency, can be cut with a sharp knife from an old piece of rubber.

When you discover a leak, turn the water off, loosen the nut under the faucet handle, unscrew the latter, and take out. Put the new washer where the old one was, screw in the handle, tighten the nut, and your job is finished, all at a cost of three cents.

A plumber advised me to use chloride of lime occasionally around the sink, tubs, and toilet. A little of the powder placed over the drain, and then boiling water poured over this, acts as a cleanser and a disinfectant.

I used to think that I had to have the services of a plumber at even the suggestion of trouble. I have learned since that a woman can save a few dollars every year on her plumbing system if she studies her pipes from the start.

### A Course for Mothers

A SERIES of articles on the care and training of small boys and girls at home is being issued weekly by the United States Bureau of Education. They deal with such topics as understanding children, outdoor and indoor games and occupations, playmates, plays and toys, books, stories, pictures, music, and pets.

If you care to receive the articles as issued, please send name and address, with request to be put on the mailing list for Mothers' Articles, to the Kindergarten Division of the United States Bureau of Education, Washington, D. C.

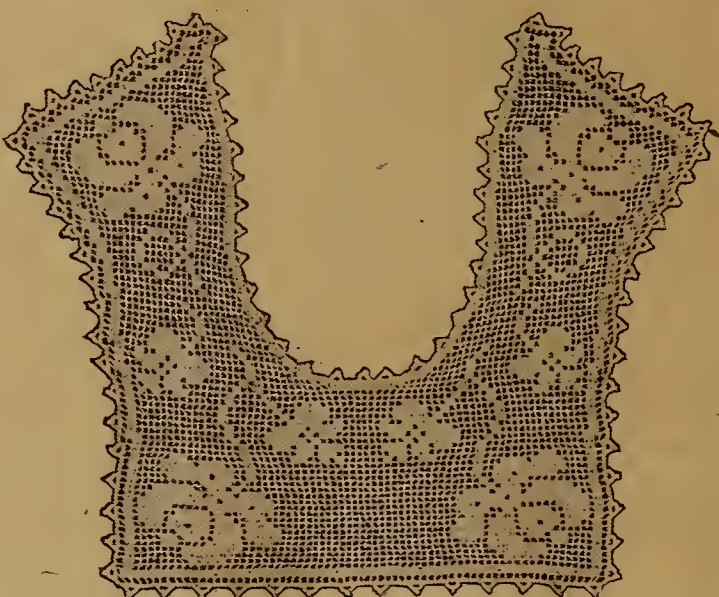
### To Make Hanging Baskets

By John T. Timmons

IT IS sometimes difficult to secure sphagnum moss with which to line hanging baskets, and as we desire the baskets kept in the windows all winter not to leak and injure furniture or carpets, it becomes a question how to prepare them successfully.

Secure some very heavy, tough paper, and place any sort of colored decorations on the side to be placed outward, such as wall paper or small colored pictures, and attach these to the outer surface of the tough paper, and sew the whole lining in, attaching the threads to the wires.

## Rose Filet Collar



NO BETTER Christmas gift can be imagined than this pretty collar in filet crochet, and there is a great vogue for filet collars to finish the dark velvet and silk gowns worn this year. Complete directions for making will be sent on receipt of four cents in stamps by the Fancy-Work Editor, Farm and Fireside, Springfield, Ohio. Order No. FC-98.

Make a hole in bottom, and insert a cork that has been greased.

Make a thin paste of plaster of Paris and water, and cover the inside of the paper, and this will form a water-tight casing which will be much better than the moss, and if it is made with taste it will be very neat in appearance and different from those in other homes.

Plants will grow in such a basket very nicely, but if a rather large-necked bottle is buried in the earth in the basket, and kept filled with water, in which two or three strips of cloth are hanging, and extending out in different directions, the moisture will be distributed through the earth and roots better than in any other way, and the basket will seldom require watering in any other way.

These interior hanging baskets should be prepared early in the winter to secure the best results.

### Everyday Helps

**BOILED HAM**—After boiling a ham, remove the skin and rub the ham with the white of an egg, pepper, and sprinkle generously with sugar. Place in oven and brown delicately. This keeps it moist and gives it a better flavor.

A. B. W., Illinois.

**WHEN BAKING**—I have just learned that bread should be cooled as rapidly as possible after baking, so that all growth of yeast and bacteria in it may be stopped. I have always wrapped the hot loaves in a thick cloth immediately upon taking them out of the oven, but now realize that this is wrong from a scientific point of view.

M. K., Montana.

## Our Wartime Thanksgiving

By Mrs. Emily H. West

THE Home Card of the Food Administration is tacked on my kitchen cabinet as a daily reminder, and to the close observer our table will show that we realize that our country is at war. The boys have given up sugar in their coffee and in their oatmeal; Elizabeth and I have stopped making candy; we are all eating—and enjoying—the new "liberty bread," and meat appears on our menu only once a day instead of three times, as formerly.

Accordingly our Thanksgiving dinner will be planned with more than usual care. We have decided to have a truly Pilgrim's feast this year, and practically everything served will have been raised on our own farm. This is our menu:

ROAST TURKEY  
MASHED POTATOES HOME-CANNED PEAS  
CREAM CARROTS  
COTTAGE CHEESE AND NUT SALAD  
PUMPKIN PIE  
COFFEE NUTS

Instead of the usual supply of candy, we are using nuts gathered in the woods, with home-grown popcorn and fruit raised in our own orchard. A home economics teacher told me about a Japanese confection which we have found delicious as a sweet:

Grind up one pound of fruit—dates or raisins—with one pound of nuts. Knead in a bowl. Spread and let stand in a pie tin twenty-four hours. Cut in squares, roll in powdered sugar, and serve. We like this fruit confection better than sugar candies.

The cottage cheese salad is simple to make: Mix the cheese with nuts, serve on plates in a little nest, and top it with a ring of pimento and a little mayonnaise for flavor and color.

### Recipes

**PEACH PUDDING**—Peel and cut up two cupfuls of peaches. In a buttered baking pan put a layer of peaches, and sprinkle with cinnamon and add sugar. Add a small quantity of butter. On this place a layer of bread crumbs and alternate with peaches until the dish is full. A layer of bread crumbs should be on top. Cover the dish, place in a hot oven, and let it steam for half an hour. Then remove cover and allow the pudding to brown. Serve it with cream.

S. L. U., Idaho.

**EGG CROQUETTES**—Boil six eggs hard and chop rather fine. Make a white sauce of one tablespoonful of flour, and one cupful of milk. Cook until it leaves the pan, stirring all the while. When cool add the chopped eggs, which have been salted to taste. With a tablespoon, rounded full, measure out and mold in hands to any shape desired. Then dip in egg and roll in cracker crumbs. Fry in deep fat.

F. L. D., Ohio.

**APPLE SANDWICHES**—Chop fine four apples and a half cupful of walnut meats with a cupful of whipped cream; put all between slices of sponge cake.

H. A. L., Missouri.

**CHUTNEY SAUCE**—Chop together very fine six green sour apples, two green peppers, two onions, one cupful of seeded raisins, one tablespoonful of mustard seed, one tablespoonful of salt, and one cupful of brown sugar. Simmer all together thirty minutes, pour into small bottles, and seal.

K. L., New York.

**SWEET POTATO TRIFLES**—Take four boiled sweet potatoes, one cupful of milk, one teaspoonful of sugar, one-half teaspoonful of cinnamon, juice of one lemon. Boil the potatoes and press through a ricer or colander. Mix thoroughly with other ingredients. Form the mixture in diamond shapes on a baking sheet, and brown under the blazer or in a hot oven. Serve with chicken or turkey.

**POPCORN BARS**—Crush freshly popped corn on a molding board, with the rolling pin. For one quart of crushed corn make a syrup as for popcorn balls. Cook until it becomes brittle when tested in cold water, then add the crushed corn. When mixed, press into a buttered pan to the depth of half an inch, making it smooth with a potato masher. Mark into bars with a sharp knife. Break apart when cold, and wrap in waxed paper. A cupful of crushed nut meats, adds greatly to its flavor.

M. G. C., New York.



# Runaway Julietta

[CONTINUED FROM PAGE 23]

dark hair. He carried a shotgun, and over one broad shoulder hung a fat gamebag.

For a moment they stared at each other, Julietta flushing slightly. Then, as though she were greeting one from whom she had parted the day before, she spoke quietly:

"Hello, Clay!"

The young man started, stared harder at her. Julietta laughed, a trifle queerly. "You were always so nice to me, Clay, but now—"

The bewilderment in the man's dark eyes leaped into recognition, and he sprang down the bank with a swift cry, seizing the hand she extended.

"Why, it's Liz—it's *Dare!*" His face, very brown and healthy-looking, was turned up to her laughingly. "Of course it's you! I knew you'd come back some day!"

"I came last night," she told him simply. He eyed the little bay mare, and nodded.

"At the Wurrells'?"

"Yes. I'm afraid I surprised them awfully." Julietta withdrew her hand from his grasp and brushed aside a truant curl.

"You're just the same, only grown up," and Thorpe grinned happily. "Here, get off and sit down on the bank and talk. Gracious, I'm glad to see you again!"

FOR half an hour they sat on the bank of the creek. Julietta told something of herself, but nothing of her having worked and made money, while in turn Thorpe recounted briefly his own tale of the years. He was master of the Thorpe ranch, alone in the world; and presently he touched upon a thing which had puzzled her the previous night.

"And why is it, then," she asked, "that some of these ranches are desolate—"

"It's Andy Burt," he said grimly. Under her questioning look he continued slowly:

"We ranchers must have water, you know. Oh, of course, there's lots in the creek. But the creek happens to be owned, clear up to its source, by the La Vina Ditch Company; and the said company is Andy Burt, who refuses to sell any water."

"Refuses to sell?" Julietta's eyes opened widely. "Nonsense! He can be forced to sell—"

"No. Not where water can be pumped." Clay shrugged his big shoulders and stared moodily at the flowing current below them. "Pumping machinery is so expensive, and most of us are so stubborn in the conviction that the creek is public property that so far Burt has won out hands down. He's looking farther than the ditch company, you see."

"I don't see," Julietta drew her brows into a perplexed frown.

"Without water the land is worthless. The owner must starve or get out. A dozen families have been starved out, and Burt has bought their land cheap. That's all."

"But you?" cried Julietta. "You said you were doing well. And Uncle Jim—"

Clay frowned.

"I took my own way of getting water. Wurrell took his."

"What do you mean by that? Please be concrete," she begged.

"I mortgaged the old place up to the eyes and put in a pumping plant. Cost a mint of money, but it's made good."

"And Uncle Jim? He has a pumping plant too?"

THORPE stirred uneasily but made no response. He seemed absorbed in the stream below them. Intuition told Julietta that her companion preferred not to discuss this "other way," and, dusting off her skirts, she rose.

"I'm glad I came back, and I'm glad I met you here," she said as he handed her to her saddle, and she sent the bay mare splashing toward home.

She was just finishing breakfast when her uncle slouched in morosely. His bad temper was evident as he scowled at a short steel rod in his hand.

"Consarn the luck!" He tossed the rod to the table. "There's that alfalfa goin' plumb to seed for want o' cuttin', and that consarned mower breaks on me."

"Let me take it to the shop for you, Uncle Jim."

"Would you?" Wurrell brightened, then guffawed. "Come to think of it, you've done that errand a heap o' times. Say, I'd be right glad if ye would—"

"Old Fitz still doing your work?" inquired Julietta, leaping up. "Good! I have to take back that horse and buggy anyway, so I can drive to town with the bay mare in tow and ride her back."

An hour later Julietta drew rein in front of the smithy in La Vina, hitched her bay mare, and entered. A man,

working a huge pair of bellows, glanced around. He was old, bent-shouldered; his face was large and full, while his head, entirely bald, shone in the red glare like polished ivory, and with startling effect.

"Good morning, Mr. Fitzhorn," and Julietta handed him the broken gearing. "Uncle Jim's in an awful hurry for this."

The smith's eyes narrowed in wonder as he took the rod.

"Meanin' Jim who?"

"Why, don't you remember me?" Julietta laughed. "I'm Lizzie Dare."

"You?" Fitzhorn blinked, and stared amazedly; he wiped his hands on his leather apron and held one forth. "You—old Wurrell's niece? Sure, I remember you now."

He gripped the broken gear between a pair of tongs and thrust it into the glowing coals.

"Seen your cousin yet—Maggie Wurrell, I mean?"

"Auntie said she was married."

FITZHORN stared around at her with a queer expression.

"Huh! 'Tweren't no marriage—no genuine weld, so's to speak. Them's the words—no genuine weld." His bald head nodded.

"What!" Julietta paled, sitting very still.

"Then her mother an' daddy fair kicks her out, allowin' she's disgraced 'em, and a lot o' junk like that. Mebbe I hadn't ought to tell all this—"

"Where's Maggie now?" asked Julietta, her voice almost a whisper.

"In town. She's got a baby."

Julietta came to her feet, and Fitzhorn turned to face her.

"Understand," he said with gruff bluntness, "'tweren't no fault o' hers. She thought the feller all square an' straight, an' so did everybody else. A high-collared duck he was, worked in the drug store—smooth talker an' all that. Guess Maggie thought she was doin' right smart for herself." Fitzhorn laughed harshly. "Her mother thought so too, from the figurin' she done to rope him in for the gal. After the weddin', quite a spell, it turned out the feller had another wife back East; so he skips town and Maggie's folks drop her like a hot horseshoe. Mighty narrer way of actin', I say."

Julietta nodded tacit assent.

"Where can I find Maggie? I must go and see her."

"In that little cabin over by Burt's warehouse," Fitzhorn jerked his thumb down the street. "She work: out at odd jobs, cleanin' house and washin'; has a hard time to get along, I guess."

[CONTINUED IN NEXT ISSUE]

## A Thanksgiving Husband

[CONTINUED FROM PAGE 20]

tongue and American slang: "Like it! *Pas si bête!* This cooking so terrible will kill me—I, Jean Bouligny, say it! Ah, but I am ingrates so to repay your so great kindness to a stranger, but I—*moi*—am up against it, sure Mike!"

"Oh, monsieur," Lorena faltered, "I'm so sorry, but I just hate to cook."

"Mees Green!" he gasped. "You hate the art of all the grandest? This is fierce! It is the limit. Know you not that the greatest nobles and savants of France have spent years in attempts to perfect a single sauce? Know you not that a mighty king deigned to reward the success of his cook in pleasing his royal palate by a decoration of the most superb? *Ma foi!* What do you know about that!"

The superb scorn of him was too much for Lorena's composure, and bursting into tears she sobbed out the explanation of her aversion to the culinary art which she had given her friends, Mrs. Todd and Mrs. Jones. Jean's expression of horror and contempt changed as she went on to one of compassion.

"*Pauvre petite,*" he said softly. "It is that you understand it not—my glorious profession. But see, Lorena," he went on eagerly, "in these weeks I have learned to love dearly my kind nurse, and if she will accept the poor cripple for a husband she need never to cook again—I, Jean Bouligny, will cook for her so long as we both do live."

Lorena was silent from sheer joy, for when a woman is forty the knowledge that she is loved comes as a beautiful surprise—not as a matter of course, as it does to a girl of twenty. Jean mistook her silence, and said dejectedly:

"But you wish not to marry the cripple—is it not so?"

"Oh, no, no," Lorena stammered, finding her voice at last. "I—I love you, monsieur."

"Then all is well!" the chef exclaimed rapturously. And he proceeded to prove that his arms, at least, were not crippled as upon the two humble lovers shone the light that never was on sea

[CONTINUED ON PAGE 26]

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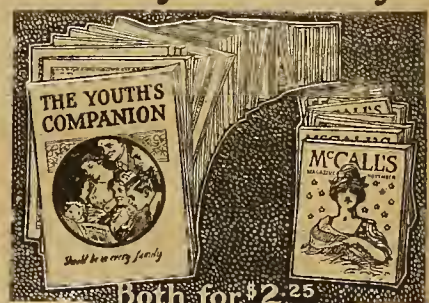
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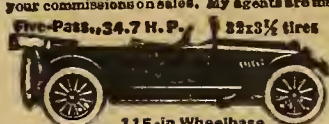
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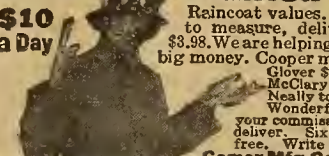
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## A Thanksgiving Husband

[CONTINUED FROM PAGE 25]

or land, and which never seems so bright as to those who have seen the shadows of a lonely old age gathering fast. But suddenly Lorena extricated herself from her lover's embrace to say in a frightened gasp:

"Oh, Jean—I forgot—Mrs. Todd says—Are all Frenchmen godless unbelievers? I—I don't think I could marry a godless—"

Jean shrugged his shoulders; then he chuckled.

"The good Mrs. Todd—to listen to her it is to laugh. *Moi*, I am *bon Catholique*, and you, *ma pauvre*, are a little *hérétique*. But *c'est égal*, for though in our lives you go to the big white meeting house on the hill, and I to the little chapel in the valley, yet some time we shall together go to the skies above, I pray."

Lorena, her last fears laid at rest, gave a happy sigh, and Jean said slowly:

"When the war came I offered my services to my country—see you, *ma petite*. Gladly would I have given my life for *la belle France*, but I was fifty last year, and she has need of younger blood. Still, I had hoped to be enlisted in the *commissaire* department, for I would feel it an honor to prepare the food of the French *pouli*—I, Jean Bouigny, who once prepared a dinner for King Edward of England. I was expecting to be called when this," touching his crippled knee, "put an end forever to the hope of serving France. As an Englishman—an old man—said recently, 'For me it remains only to pay and pray.'" Then the shadow lifted from the dark, mobile face, and he smiled. "It is good, *ma petite*, is it not, that I can pay?"

"Shall we not marry on Thanksgiving, *petite*?" he urged. "What banquets have I not prepared on that great feast day of your nation! In two weeks I can use my crutches well, and we shall invite our friends to a wedding breakfast such as they never before enjoyed, and I—*moi*—Jean Bouigny, shall do it all. You consent, is it not?"

"Just as you like, Jean," Lorena responded shyly.

Long before light on Thanksgiving morning, Lorena heard the tap of Jean's crutch as he went about preparing their wedding feast. Her part of the work was soon done, for the little white cottage had been swept and garnished from attic to cellar, and nothing remained but to fill every nook and corner with a glory of crimson and yellow chrysanthemums that she had gathered from her garden.

When the guests arrived, they found the bride arrayed in a pretty gown of dark blue voile, and so beautified by happiness and love that they stared at her in amazement. The groom was superb in a suit of spotless white linen, for he had donned the uniform of his profession so that there might be no delay in serving dinner after the ceremony had been performed.

The stiffness which frequently attends the ordeal of formulating graceful and appropriate congratulatory speeches was entirely missing on this occasion, due to the frantic exclamation of the bridegroom, following close on the final blessing.

"Lorena! Lorena!" he shouted. "My crutches, *tout de suite*, quveek! The gravy burns: all is lost!"

But notwithstanding the despair of the chef at a barely perceptible burnt flavor in the gravy, the memory of that dinner would long be preserved in the annals of Akron, and when they departed in the gathering twilight of the short November day Mrs. Todd voiced the general sentiment by remarking loudly as the guests lingered for a moment at the little white gate:

"Land, don't some folks' luck come to 'em buttered? To think," she added bitterly, "of bein' married to a man who can cook like that, instead of to one who, when his wife's flat on her back, will git the hull house to lookin' like a hurrah's nest, jest tryin' to bile a mess o' potatoes."

But the scorn wave had hardly settled on Mr. Todd's guilty head when she resumed with recovered cheerfulness:

"Well, there; I dunno's I grudge Loreny her luck, for she's a real weight off my mind. An' I shouldn't wonder one mite if the hand o' Providence wasn't in it. Loreny's awful pigheaded, an' since she set out never to do a hand's turn o' cookin' she never *would*, an' seein' things was as they was, mebbe the Lord tipped that train off that trostle a' purpose."

But at the very moment when Mrs. Todd gave voice to this remarkable surmise, Lorena, her head on her husband's shoulder, was murmuring softly:

"Oh, Jean, do you s'pose, if I tried real hard, you could learn me how to cook?"

Ah, well, "an ever-changeable and capricious thing is woman."

nights. Following is shown how the five 12-inch candles were subtracted from for six nights:

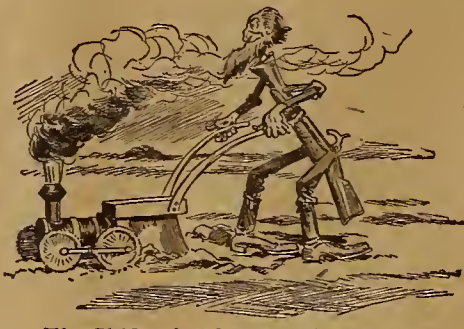
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7	10	9	12	12
3	5	2	0	0
4	5	7	12	12
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2	5	7	7	9
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		7	7	6
		5	2	3
		2	5	3
		2	5	3

## The Shifter

By William Johnson

THE difference in effect between a blunderbuss and a high-power rifle is scattered force.

The blunderbuss carries a big load and makes a loud noise. But its effect



The Shifter is a human blunderbuss

is spread over too much territory to get very far.

A Krag-Jorgensen carries a small load and makes little noise or smoke. But it rings the bull's-eye.

The Shifter is a human blunderbuss. His force is dissipated among too many things. He is loaded heavily with plans, but they end in smoke and noise.

To make the bull's-eye of success a man must base his efforts on Krag-Jorgensen principles. Energy carries farther if confined to one missile than if divided among a hatful. And this rule holds, no matter with what branch of farming a man tries to hit the bull's-eye.

The Shifter has a hatful of ideas. With his energy confined squarely behind any one, he might ring the bull's-eye. But all the targets of success demand long-range shooting. And blunderbuss methods can cover only blunderbuss distance.

He shifts breeds, crops, farms, friends, and political views—not for any special purpose, but because he has no well-defined purpose. A purpose clings to something and works out its end. The Shifter does not realize that he sacrifices his ends to the means he employs.

Yet, the Shifter is moved by the same impulses as is his progressive neighbor—discontent with the old and the desire for better things. Only, the Shifter is moved too often. He crosses all the roads to success instead of following one to the end.

## The Soft Answer

By Elizabeth Jackson

FIVE minutes a day—even this brief time, spent daily in the earnest effort to overcome a fault or cultivate a virtue, will work wonders. Why not try?

"It is better to dwell on the housetop than with an angry and contentious woman." And the same applies to man. In many cases the sharp speech, like the habitual swearing of the mule driver, is merely a "blowing off at the safety valve," and doesn't mean anything.

Sometimes sharp speech is a symptom of overworked nerves, and then the cause should be removed. And sometimes sharp speaking is the result of unkind thoughts. Then Heaven pity the rest of the family! In any case, we should try to remember that unkind words are better left unsaid.

If, instead of toleration and forbearance upon the part of your loved ones, you want their love and respect, you must learn to keep your lips shut tight whenever you are tempted to say something hateful. You can if you try hard enough. If at first something harsh and hard slips through in spite of you, hasten to say a kind word, so that, like the sunlight dispelling the shadows, it may drive away the gloom which your unkind remark made in the heart of your friend.

Next time, when temptation comes, say the kind word first, and the unkind word will never be spoken.

I had to take up the asters to plant the beans, you see."

"How big is your garden?"

Paul looked around.

"Oh, about as big as this room."

"What kind of beans do you want?"

"Why, why, just beans."

"Does your father know what you're doing?"

Paul laughed.

"Why, no; Papa always lets me do what I please with my garden."

"Well, son, ten cents is enough for beans if that's all the ground you've got. Give me your cash; I'll give you seed enough for your garden, and we'll set the asters out in my yard and you and I will tend them together. How'll that suit?"

Of course it suited. Paul's garden had the biggest crop of beans anyone ever saw, for he told the little old lady what he was doing and she helped him care for it. They planted cabbage between the rows, and they grew as big as footballs.

And the asters? Paul and the florist cared for them until they blossomed, and Paul had twenty bright new dimes to drop in his bank as his share of what they sold for.

"War gardens are all right," Paul said as he rolled up the American flag he had kept flying all summer at the head of his patch. This was when the last cabbage was pulled. "My peace garden beats them all put together."

## New Puzzles

## The Crazy Clock

The Swiss tourist will recognize in the sketch a deserted church near the outskirts of Zurich. The church was built about the middle of the fifteenth century, and was furnished with a clock by the oldest citizen of the place.

The clock was started at 6 A. M., accompanied by much ceremony. By a mere mechanical accident the hands of the clock must have been put upon the wrong pinions, for the hour hand started off with the regular speed of the minute hand, and the latter revolved one twelfth as fast as the other. The old clock-maker was infirm, and when the strange antics of the bewitched timepiece were explained to him he insisted upon being carried in his bed to the scene of the strange phenomenon, but when he arrived the time as indicated upon the clock was perfectly correct, which had such an effect on the old man that he actually died of joy. No one was ever bold enough to repair or wind it, so its works rusted to pieces, and all that remains is a curious problem suggested by a strange story:



If the clock was started at 6 A. M., as shown by the picture, with the hour hand moving twelve times as fast as the other, as explained, when will the hands first reach a point which will indicate the correct time?

## Answers to Puzzles

Puzzles Printed Last Issue

## The Puzzling Household

Six persons might have lived in that house, according to the boy's statement, but it involves a peculiar condition of relationship which requires some explanation. Let us say that Mr. A was a widower with a son who was a widower with a son. Thus two fathers and their sons. Then there are Mrs. B, a widow, with a daughter who is a widow with a daughter. Thus two mothers and their daughters. Now we marry the three A's to the three B's, and we have three childless couples.

## The Landlady's Puzzle

The landlady was able to manipulate five 12-inch candles so as to serve her three lodgers without waste for six



## Children's Corner

## Paul's Peace Garden

By Abbie Fosdick Ransom

HE SAT on the step of the back veranda, looking very serious and troubled. There was something he wanted to do very much indeed, and he couldn't think how he was going to manage. He might tell Mama, and of course she would help; but Paul liked to do things for himself. He didn't think it manly in a boy eight years old to be always running to someone else. At least not until he had tried every way he knew to carry things through alone.

Then he saw something bright and glittering peeping out from under a leaf lying on the grass. It looked like a piece of tin, and he made a long leg to uncover it. Then he scrambled off the step and picked it up. A dime, a new one with 1917 stamped on it. Then he knew. It was one Mama lost when she paid the milkman.

Into the house he ran. Mama was putting away the newly laundered clothing in the clothes press off the front hall up-stairs.

"Which hand will you take?" he sung out, holding both of them tightly closed before her.

Mama laid the last sheet smooth. Then she touched Paul's left one, giving it a little loving pat.

Paul opened both hands at once. In the right one there lay the dime.

"I found it right where you dropped it, and you've lost," he told her.

"And the dime belongs to my little boy."

Paul fairly jumped up and down with delight.

"Oh, may I? May I?" he asked. "And may I spend it instead of putting it in my bank?"

"I didn't know you needed money so badly," Mama smiled.

Paul nodded.

"I sure do," he said.

HE RACED off down the main street, but in a few minutes he was back again, out in his garden, studying things there with a look even more serious than ever. Then he ran into the toolroom and got his own particular spade and set to work.

A half-hour later he was off down the street again, but this time he carried a basket and he wasn't whistling. That was a sure sign that he was busy thinking. His dime wasn't enough for what he wanted to do. He must have more "working capital." That was what Papa called it when he was talking business. He couldn't take it out of his bank. Papa never let him borrow anything, especially money. When a boy needed twenty cents and had only ten, why, that was a time to think and to work—now wasn't it?

There was just one seed store in the town. He marched straight into it, set his basket on the floor, and looked around until he saw the man who owned it.

"Please, sir, I've got some of the nicest asters you ever saw when they blossom, and I want to sell them," he said.

"Seems to me you're pretty small to be in the flower business," the man told him, and Paul answered:

"Size doesn't make any difference if things are right."

The man laughed. Then he asked: "What kind are they?"

"They're a new kind Papa sent away off for. I don't know where, but they're something different, and he gave some of the seeds to me and now I've got to sell the plants."

"What for?"

Paul waited a minute before he told him. He liked this man whose eyes looked so kind and whose lips smiled when he spoke. So he told him what he was trying to do.

"Down at the foot of our street there's the nicest old lady. But she hasn't any garden and no place to make one, and she's too old to work one, anyway. I heard her tell the grocer's boy that she liked beans but couldn't afford to buy them any more because they cost so much. And somebody else said that they didn't believe she got half enough to eat. So I'm going to make a garden for her. But I've only got ten cents, and that won't buy beans enough besides what other stuff I want. Anyway,



# Eight Useful Patterns

Miss Gould Suggests These  
for the Winter Sewing



No. 3395

This pretty hat for the little girl can be made from pattern No. 3407.

It's so easy to make the children's hats at home if you have a good pattern. Plush and velvet are used a lot for little girls' hats, and plain cloth and corduroy are stylish for girl or boy. No. 3407 is good in any of these fabrics. No. 3407—Adaptable Hat Suitable for Girl or Boy. Sizes, small, medium, and large. The price of this pattern is ten cents.



No. 3395



This simple tailored hat is suitable for either boy or girl. Pattern No. 3407.

Are you stout? And don't you want to look thin? If so, buy pattern No. 3395. It was specially planned to make the big woman look smaller. It's a practical style, good for silk, wool, or cotton fabrics. No. 3395—Adaptable Dress in Panel or Pointed Waist Style. 36 to 52 bust. Width of skirt, two and one-eighth yards. Pattern, twenty-five cents.



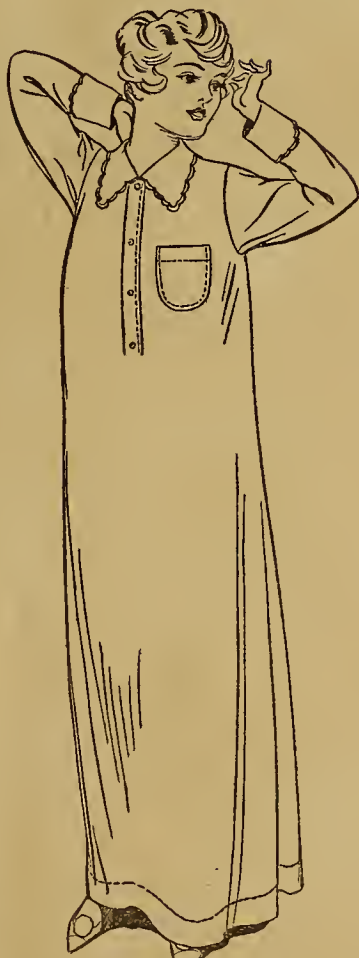
No. 3395



Dress or Apron, either one can be made from pattern No. 3409—Girl's Dress with Collar and Pockets in One. 2 to 6 years. Pattern, fourteen cents.



A practical undergarment for the small child. No. 3408—Diaper Drawers with Stay. 1 and 2 year sizes. Pattern, fourteen cents.



No. 2931



School, play, or dress-up times all can be fitted by this suit. It's made from pattern No. 3185—Boy's Suit with Belted Coat and Straight Trousers. 4 to 8 years. Pattern, fourteen cents.



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No. 3454



No. 3354

Even though every one is wearing the one-piece dress, there are times when the separate skirt is a necessity. There is no excuse for it, though, unless it's stylish; so if you need one choose No. 3354—Gathered Skirt with Inverted Plaits at Sides. 24 to 32 waist. Width, two and three-fourths yards.

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No. 3408



No. 3411

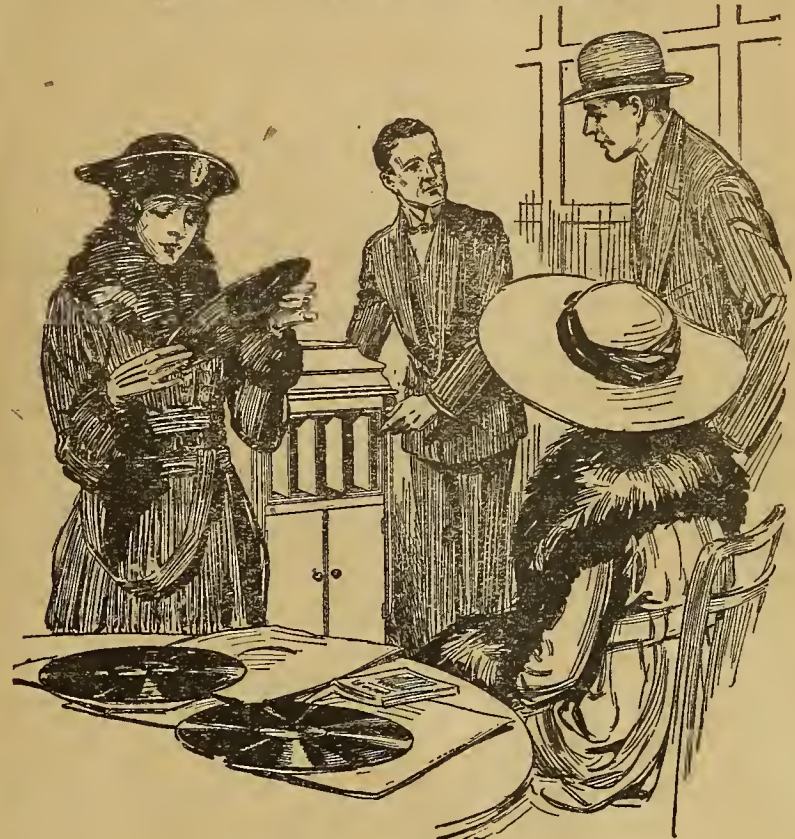


No. 3409



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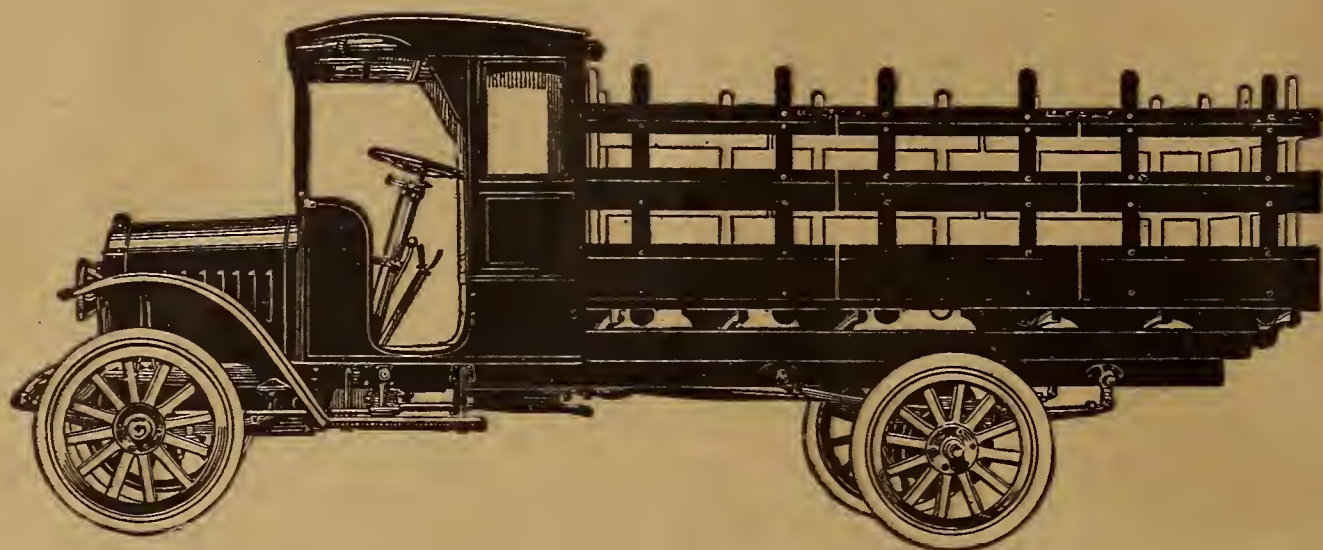
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# FARM and FIRESIDE

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No. 5

## Raising Sheep for Their Fur

### Scarcity of Native Furs Brings Karakuls from Far-Off Asia

By ZENITH MULLEN



In normal times Bokhara alone exports more than 1,500,000 Karakul furs annually



The black curly fur of the lamb with its high luster is most salable



An aged Karakul ram. The pelt decreases in value with the age of the animal

ONE of the latest industries introduced into the United States is that of breeding Karakul sheep, natives of Asia, for the production of fur. While the ultimate aim of the business is the sale of Karakul lamb skins for use in garment manufacturing, owing to the limited number of these sheep in the United States and the difficulties incurred in importing new ones, the sale of adult pure-breds and high-grade animals is at present the most profitable features.

The Karakul may be said to represent a distinct type of sheep, but many persons have hesitated about calling them a breed. This is due to the fact that no record is kept of them in their native homes. However, it is generally conceded that since they have peculiar characteristics that they transmit to their offspring they may be called a breed, but in a much broader sense than we usually think of the word.

In 1912 L. M. Crawford began the experiment of crossing Karakuls with Lincolns and other long-wool sheep on his 1,900-acre ranch, near Cottonwood Falls, Kansas. This ranch is now known as the Kansas Karakul Ranch and is one of the few in the United States to be devoted to this industry. As a result of crossing Karakuls with Lincolns the half-blood lambs were all black with the luster and curl typical of the pure Karakul. Pelts of some of these lambs, born dead or dying soon after birth, were priced at an average of \$5.50 each by the tanner to whom they were sent. Foul pelts which were sent to a tailor to be made into two overcoat collars were reported as worth \$6 each.

Following the suggestion of Dr. R. K. Nabours, professor of zoölogy in the Kansas State Agricultural College, Mr. Crawford's aim for the last three years has been to build up a flock of high-grade and pure-bred stock, rather than to cross with Lincolns and other American sheep, as was the plan when the experiment was first inaugurated. This has become necessary because of the war, which has prevented the importation of new Karakuls from Bokhara. As a result of this experiment a flock of 200 high-grade Karakuls has been built up on the Karakul Ranch, consisting of three fourths, seven eighths, fifteen sixteenths, and pure-bred. This year's lambs range from three fourths to full-bloods. This means that there are a number

of seven eighths and fifteen sixteenths which can hardly be distinguished from the pure stock.

Although the fleece of the adult animal is usually a coarse gray and salable only as wool, the young lamb skins are black and curly with a lustrous finish. Color, curl, and luster are the qualities on which the pelts are classified and sold. These requirements which classify them as fur are lost as the lambs grow older. This necessitates killing at a very early age—in fact, the younger the lamb the better the fur.

#### The Importation Checked Temporarily

ACCORDING to their appearance the pelts are known as: Persian Lamb, which has tight, even curls with a beautiful black luster; Astrakhan, with a soft, velvety finish but no curls; Baby Karakul, the pelts of lambs taken before birth, which has wavy curls arranged somewhat in lines with a lustrous finish; and Krimmer, which is a gray.

The Karakul sheep is a native of Bokhara, Turkestan, in central Asia. It is estimated that there are as many as 3,000,000 to 4,000,000 native sheep in

Bokhara, and 1,500,000 pelts are exported each year for use in the manufacture of fur garments. Imported pelts sell in the United States as high as \$20 each. It has been found that one half to one half Karakul-Lincoln lamb skins compare favorably with high-class furs and have been priced as high as \$12 each. The price of Karakul lamb pelts in the United States increased 180 per cent between 1895 and 1913.

Since wild fur-bearing animals are becoming less abundant each year and the demand for fur is increasing, it is becoming more and more imperative that animals be domesticated for the purpose of supplying the demand. The Karakul sheep is the most promising animal that can be used in solving the fur problem. Hence the industry of raising Karakul sheep will probably become a profitable as well as popular one.

In 1914 Dr. Nabours made an extended study of Karakul sheep in Bokhara and purchased a number to be used in experimental work in Kansas, but owing to the war it has been impossible to ship them over here. However, in his trip around the world in 1916 he revisited the flock and found them being well taken care of, and that they had more than doubled in number. The inability to secure new pure-bred rams has been a hindrance to the experiment, although the results so far have been gratifying. During the period that no new blood can be imported the breeders will doubtless content themselves with experiments in crossing Karakuls with native strains. This experience will give a firm foundation for work after the war.

For the benefit of anyone interested in this industry Dr. Nabours suggests: "Secure one high-grade ewe and one high-grade ram and a few one half and three fourths ewes for a start, and then increase the business as your experience and success justify. Undoubtedly some pure-bred animals will be brought in at the close of the war, and anyone who has a start will then be able very soon to build up a flock of high standard."

Besides the Kansas project, experiments are being carried on in Texas, New York, and New Mexico, and also by the Government. The fact that the industry has been introduced into European Russia, Germany, Austria-Hungary, Scotland, China, and Africa is proof of its importance.



Since the war has stopped the importation of Karakuls, they are being crossed with American breeds of sheep. The lambs keep the Karakul fur characteristics



# Live Stock and Sweet Clover

## Farm Animals Relish Vigorous Legume as Hay or Pasture

By H. H. SHEPARD

NOT until I had seen sweet clover growing in the pasture of a very successful stockman, and saw his cattle not only eating it freely but pushing their heads through the barbed-wire fence to eat it as far out as they could reach along the roadside, did I have any great faith in this popular rank-growing legume. The man in the accompanying picture holding his hat in his outstretched hand, to show how far out from his fence the cattle had eaten the tall sweet clover, has through long years of cattle-raising fed and finished many loads of choice beef cattle. He has extensive bluegrass pastures, and in all of these pastures he has sown sweet-clover seed of late years. The deep-rooted, nitrogen-gathering sweet clover enriches the pasture soil to increase the growth of blue grass, and it furnishes the best of protein forage for the cattle,

cured in the whole pasture area. The cattle and sheep in this pasture ate the sweet-clover plants down very low the first year, and have allowed only a few plants and branches to blossom and begin seed this year. Close grazing of the plants induces more extensive branching and spreading of the branches near the ground. Moderate pasturing makes finer forage, but too heavy pasturing might kill the plants before they have ended their full two-year life cycle, with blossoming and seeding the second year.

We have found that sheep, hogs, cattle, and horses will eat and thrive on sweet clover practically the same as on red clover and alfalfa. Experimental tests have shown its feeding value to be equal to alfalfa and the other clovers. It would not be just to say that it is better than the others, for all crops have their good and bad features. Under certain soil and climatic conditions sweet clover might prove much more profitable than alfalfa or red clover. The individuality of the farmer makes a difference as to his success with any particular crop. On the average farm with live stock, sweet clover is fast becoming a valuable crop. We are sowing the seed in several permanent pastures and in small patches all over the farm to secure plants to seed the whole farm continually in the future.

This spring we were compelled to plow up about a quarter of an acre of our sweet-clover meadow for corn; and, although sweet clover had grown but one year on the land, the corn in this quarter acre is much larger and thriftier than in any other portion of the field, demonstrating the beneficial effects on the soil of sweet clover for corn. With a full two-year growth the fertilizing effects should be greater. Plowing under a heavy crop of sweet clover for green manure during the second season's growth should give still greater beneficial results. Unquestionably thin and infertile soil can be built up to a high state of fertility and productiveness in the growing and plowing under of this crop.

One of the most commendable qualities of sweet clover is its power and habit of growing on stony and apparently barren, hard land where no other good forage plants can or will grow. The writer spilled some seed from a package by accident two years ago in a rocky beaten path. Last year about a dozen plants grew in this path, and were tramped on hundreds of times, but they grew in the hard ground to be large plants, and made seed last summer and fall. This seed fell and made a wider showing with more than a hundred plants in the path this last spring, and now these plants are taller than a grown person's head, blossoming freely. Sweet clover is a good plant to make sterile land productive and profitable pasture land, at least.

## Tenancy in America

By JAMES SMITH

THE tenancy problem in America demands serious consideration, in the opinion of Dr. H. J. Waters, president of the Kansas State Agricultural College. Americans get excited over the increase in tenancy every time a new census is taken, and it is well that this is the case, because of the evils of our system of farming.

Four ways of dealing with the tenant problem in the past have been found. Germany stepped over from the feudal system to the system of small farms without the intervention of landlord and tenant, and as a result it may be truthfully said that Germany never had a real tenant problem. This is the only conspicuous example of preventing tenancy.

who eat it with much relish. This stockman says that his cattle have learned to like sweet clover so well they will break through the fence to get at a good patch along the roadside or in another field as quickly as they will break through the same kind of fence to get into a new field of ripe corn; and he affirms that it is the best beef-making forage that can be grown, without exception.

Last year sweet-clover seed was sown on our own land mostly as an experiment with spring oats—a little more than an acre. Either from poor seed or because the oats were not a favorable nurse crop, maybe for some other reason, the stand of sweet clover was good only in places. This spring this uneven stand was allowed to grow with the intention of harvesting it for hay. By the last of May the plants were more than three feet high, well branched, and beginning to bud in a few cases. Then it was cut with high stubble for hay. The hay with some grass, and weeds in it, was about as easy to cure as alfalfa or red clover. We allowed this to remain in the shock for two days, then stored it in the barn. It has kept perfectly in storage, filling the barn with the sweet odor of the best new hay. The odor is very pleasant.

To test the first of this new hay, we fed it to some cows being milked, and every one of them ate it freely at sight. It was also placed in the mangers for workhorses and colts, all of them eating it at once. Several armloads were placed in a lot for the cattle, sheep, and horses. Of these loads only the leaves and finer stems were eaten at first. Later idle horses in the lot began to eat the coarse stems and cleaned them up completely. These feeding tests have demonstrated to us convincingly that all kinds of animals will eat cured sweet-clover hay well. We are saving that in storage for winter feeding.

For two years now we have grown sweet clover in a small way in a large hilly and rocky pasture. So far the plant has grown best in portions of the pasture on and below limestone ledges, where apparently the soil contains much carbonate of lime. We are now quite sure from the small seeding we have made that some of the seed does not germinate and grow the first year, and that part of it remains on or in the soil to come up the following year. Last year we sowed more seed in the same pasture, and expect to sow some more every year until a stand is se-

France broke down the system of land monopoly and tenancy by means of the French Revolution. France to-day has no tenancy problem, but instead has one of the most prosperous and successful land-owning systems in the world. Denmark accomplished the same result more recently without bloodshed.

New Zealand has prevented tenancy. The motto of her nation is, "The land for the people," and a system of graduated taxes makes it unprofitable to hold land not tilled. In other words, New Zealand has taken all speculative values out of land.

Great Britain stepped from feudalism to tenancy, and instead of trying to break it up, accepted and regulated it. As a result she has the best-regulated system known in the world.

A rented farm in this country means a run-down farm. It is a farm with poor buildings, few fences,



These men are showing how far cattle reach through fence to eat sweet clover



Live-stock farming greatly discourages the tenant system of farming

and no conveniences. The tenant could not, if he would, keep live stock. He couldn't afford to rotate crops and intersperse alfalfa, clover, and cowpeas with corn, wheat, and oats, even if he wanted to do so. He will not be there next year.

Generally, successful men who have been able to accumulate a competency move to town. They know the soil of their farms as no one else knows it. They usually take an active interest in the management of the farm by the tenant, encourage him to get good seed, help him plan his cropping system and his work so that the land is well prepared and the seeding done on time.

But in the course of time this experienced farmer and landlord passes away and the farm is divided among the heirs, one of whom is likely to be the local banker, another the superintendent of schools in a city a hundred miles away, and a third the wife of the pastor of a church in another county or of a local merchant, lawyer, or physician.

These new proprietors know little about farming except what they remember of their earlier farm experiences, and they are absorbed with their own problems and duties. Under our system of leasing,

the tenants who receive such careful and valuable instruction from the older farmer have long since moved away, and a new man, who is wholly unacquainted with the land and perhaps of limited farm experience, is on the land directed by these inexperienced and otherwise busy landlords. The result is bound to be a relatively low income.

Live-stock farming discourages the tenant system, and where live stock is generally grown in this country few tenants are found. Where the tenant comes into live-stock regions the herds are soon dispersed, the pastures are plowed and planted to grain, and the barns and fences fall into decay.

In every country of Europe land has been improved in fertility within the last half century. In this period we have wasted the American soil at a rate far beyond that of any other people or any people in any other age.

This has been due partly to the fact that we have had labor-saving, efficient machinery with which to till our soil, and in part to the fact that the American farm had to be cleared, paid for, and improved out of the soil and for the most part within this period.

EW



It is the landowner, and not the renter, who keeps stock. The renter sells his grain for quick returns



# All-Year-Round Farming

## Doing Some of the Summer Rush Work During the Winter

By J. HUGH McKENNEY

I HAVE been reasonably successful at the farm game, but there was a growing idea in my mind that the maximum results were yet a long way from being achieved. The more the problem was studied, the more complex it became. I resolved that if a solution existed it must be sought with good old agricultural energy. Accordingly I issued a week-end invitation to one of the "farm doctors" of my acquaintance to come down and "talk shop."

From former visits he had come to be tolerably familiar with what I was doing, so was able, without much preliminary questioning, to strike at the heart of the matter that was bothering me.

"Speaking solely from the sordid but very necessary standpoint of dollars and cents," he began when I had carefully outlined the situation, "the farm as ordinarily managed is a mighty poor business proposition. I admit that such a doctrine may not be exactly popular, but all the same there is a big element of truth in it. The manufacturer or the merchant would be forced into liquidation if he were not constantly drumming up trade twelve months in the year. But from November until April, here you are deliberately taking it easy, and it's a pretty safe guess that 90 per cent of the farming community are doing the same. Of course, that's your privilege, but is it good business?"

"No, it is not," I agreed. "A good manufacturing plant runs twenty-four hours a day and every day. The farmer has at least three months when he sits by the fire more than he works. It's very pleasant, but unprofitable. The ice man was up against the same proposition when winter came on, and to give steady employment he bought out the coal dealer, who was busy in cold months only. With the combination he had a twelve-month business."

"Now this question of farm management," he continued, "is bound, sooner or later, to attract governmental attention to a much greater extent than it does now. If our most important industry is to develop as it should, there must be a more intelligent expansion in our present system of instruction. Gratuitous advice on how to test the cows, spray the orchard, or feed the hogs is not so much needed as a good working system in which these various features are so arranged that they will produce the greatest profit. Now, for instance, here you are with dairying as your long suit. Your cows freshen in the spring and are dried off late in the fall. During the same period you fatten and sell probably two lots of hogs, draw your wheat crop to market, and dispose of a few barrels of apples, potatoes, and so on. Then you're ready to hibernate until the April showers indicate that it's time to get busy again."

"Well, I'm not averse to keeping the mill grinding full time," I answered. "Now go ahead and suggest the grist."

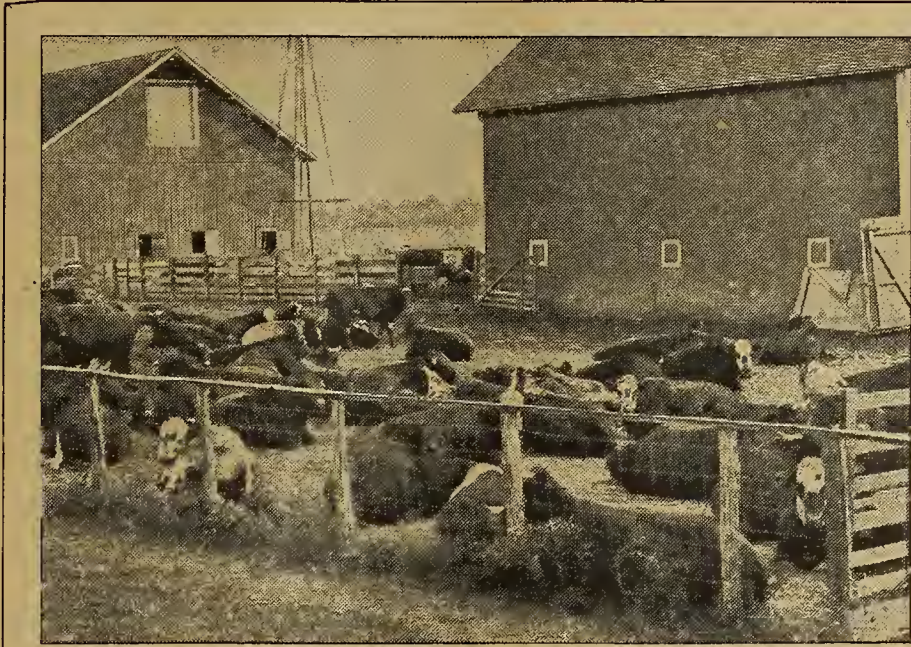
"Ultimately your plant will need to be rearranged," was the reply, "but it wouldn't be advisable to make any radical change until some additions have been made. By the way, what are you doing with that 20 acres of light land along the west line?" he inquired. "Oh, that isn't adapted for general farming," I explained. "I have got it seeded down to sweet clover after everything else failed, and even that, I'm afraid, is going to be a little patchy."

"It's ideal fruit land. By all means get it set out," he urged. "I'd start with early strawberries and follow it up with a regular succession of small fruits, and then on to cherries, pears, and peaches. That will keep things humming all season."

"What!" I interrupted. "Don't you think I'm busy enough now during the summer?"

"Don't get excited," he laughed. "That's where the rearranging I spoke of comes in. Have those cows milking in the winter. You'll be right in line for the high prices. Moreover, there will be more time to give this phase of the business the attention it requires, and, by no means least in importance, you will have steady employment for your best help the year round. That solves your labor problem."

Several years have passed since the foregoing conversation took place with my friend the county agent. His suggestions were applied practically as he presented them. Today I have a small-fruit plantation of nine acres that has come into full bearing, while the young orchards of cherries, pears, and peaches give promise of producing their first fruits next season. All-



Cattle well fed, comfortable, and contented "lay on" maximum gains for the feed consumed

ready the revenue of the farm is almost doubled, partly due to the larger receipts from winter dairying. With the extension of my activities more help is required and obtained, giving me the opportunity of trying out the boss's job. Altogether, I have never yet seen anything quite equal to a system of all-year-round farming.

## Feeding Cattle

By J. A. RICKART

JOHN CROSSMAN of Bureau County, Illinois, a cattle feeder for twenty-five years, makes his cattle good with less corn than most feeders. A pasture of fine blue grass, than which there is none better in the country, is the basis of his summer feed. In addition he gives his cattle a ration made up of one-third ground ear corn, one-third prepared molasses feed, and one-third export grade of cottonseed meal, the best made. In winter he feeds his cattle corn in the shock, the molasses mixture, and the same high-grade cottonseed meal. Results secured by Mr. Crossman during a period of about one year, beginning in January, 1916, were as follows:

January 24, 1916, he bought in Kansas City 75 head of Hereford steers weighing 1,017 pounds each, at \$7.65 per hundred pounds, which was about the top price on feeding steers at that time. These cattle were put on full feed in February, given the regular winter ration until grass, and the summer ration thereafter, and were sold in Chicago in August at \$9.95 per hundred pounds.

August 17, 1916, he bought three carloads of Hereford steers in Kansas City, weighing 1,308 pounds each, at \$8.75 per hundred pounds. These were almost finished when he got them, and were kept only thirty days, selling at Chicago in September, sale price not available.

The first week in September he bought at Kansas City 46 head of White Face steers, 1,072 pounds

average, at \$8.50 per hundred pounds, and 16 head of Shorthorn steers, 1,339 pounds average, at \$9.10. These cattle were fed fifty-eight days, and made a gain of three pounds a day, and were sold at Chicago at \$11 per hundred pounds for the White Faces and \$12 for the Shorthorns.

October 18th, he bought at Kansas City 42 head of White Face steers, 1,149 pounds average, at \$8.05 per hundred pounds, and one carload of White Faces, 1,095 pounds average, at \$7.65. These cattle were fed shocked corn until the first of January, and were then pushed on the winter ration until the first week in February, 1917, when they were sold at Chicago at \$11.50.

February 14, 1917, he bought at Kansas City one carload of Angus steers weighing 1,250 pounds at \$10.75 per hundred pounds, the only load of Angus cattle he ever bought in his life, and 38 head of White Faces weighing 1,306 pounds each, at \$11.10 per hundred pounds. This drove of White Faces was the highest priced drove of feeding cattle that ever went out of Kansas City, up to that time, and very few feeding steers have sold above that price since that date. The outcome of this purchase is not available.

Mr. Crossman prefers the Kansas-bred Hereford steer for feeding above all others. He buys the best quality of cattle he can get, and they must be in good flesh. He sells all his cattle in Chicago, and one commission firm handles all his business.

H. H. Bailey of Valley County, Nebraska, raises Shorthorn calves, fattens them, and sells them as baby beef. He keeps a herd of about 40 cows, and has been very careful about replacing the culls with good heifers of his own raising. He now has a herd that is bred up to a very high standard, and it is from this herd that he raises his calves for baby beef. As a rule, Mr. Bailey finishes his calves at the age of fifteen or eighteen months. Such of his yearlings as give promise of meeting the requirements of the Christmas trade he points for that market, and for them he gets the customary premium paid for such cattle during the first half of December. Those that do not show up well, he markets earlier in the fall. Last year he sent his first shipment to Omaha the second week in November. It consisted of 16 head, of which 8 steers and 7 heifers sold together at \$10.25 a hundred pounds at an average weight of 926 pounds.

## A Gymnasium "Bee"

By M. B. McNUTT

THE spirit of the old-time "bee" which led people to do things together is not entirely dead. You have heard of spelling bees, husking bees, and many other kinds of bees, but did you ever hear of a gymnasium bee?

La Fayette, Ohio, and surrounding community, needed a place for indoor recreation. So the class in manual training, inspired by the principal of the high school, began the construction of a gymnasium as a part of the regular public-school work. But as the winter weather was approaching, all the boys in the school turned out one day with hammers and saws and helped finish the work. The girls of the domestic science class prepared a dinner for thirty-five workmen, planning and serving the meal themselves.

The structure cost \$900 besides the work. One third of this amount was contributed by the school board, one third raised by popular subscription, and the remaining third is to be raised by school entertainments.

There are many uses to which a building like this, in a country community, may be put. Aside from basket ball, indoor baseball, and all sorts of gymnastic exercises, it may be used for musical and literary entertainments, dramas, singing schools, institutes, fairs, poultry shows, school exhibits, political and patriotic meetings, lyceum course, moving-picture shows, stereopticon lectures, union church services, and all public meetings. It may be made the social center of the whole community.

This institution is managed by a board of three directors.

What enterprising La Fayette did, any community can do. Young people become interested and are developed by engaging in worthy projects.



Exclusive of labor, this commodious hall completed cost only \$900. Subscriptions and entertainments supplied the funds. The school board has charge of the building






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"My Pilot plant is giving perfect service after ten years' constant use without repairs."

# Fighting with Food

*Mustering All Our Resources to Win the War*

By JOHN SNURE



WASHINGTON, D. C.,  
Nov. 19, 1917.

**I**N THE last few days I have talked personally with some of the brainiest men in the United

States Food Administration and in the Department of Agriculture. I have been trying to find out what they were doing to fight the Kaiser with American food.

Nobody need get the idea that everything is roseate, that everything is being done which ought to be done. Nevertheless, important things are being accomplished, and if the conception which these men have of the food problem before this country and the Allies could be made clear to every man and woman in the United States it would be wonderfully helpful.

First, let me say, this European war in which the nation is engaged is not simply a war of armies. It is a war of people, and it is a war of resources. Just at this time the attention of the world is centered on the tremendous drive of the German-Austrian forces against Italy. The weakness of Italy is not her armies, but her economic resources. She needs money and ships, guns and munitions, coal, and material of all sorts, food included. Had Italy been able to provide all these things to back up her soldiers to the utmost, the Teutonic armies would never have been able to smash their way across the Italian frontier as they did.

This is a long war, unless all signs fail. And the longer it lasts the more the resources of the nations engaged will count. That set of nations will win the war which can in a prolonged struggle muster not alone the men, but the money and ships, iron and steel, and food and other supplies for the troops and for the people at home.

Modern war is the business of marshaling the whole resources of the nation back of the forces under arms.

The United States at present is in the most remarkable situation of having to feed its own armies and its own people, and also to have to help largely in feeding its allies. For a country at war to feed its own forces and its own civilian population is ordinarily reckoned a good-sized undertaking. The enormity of our task gives good grounds for the growing belief that the agricultural interests of this country have a series of goodly and prosperous years ahead, which will not stop with the end of the war. Already it is becoming evident that some of the evils of our distribution system and of some of the speculative influences between the farmer and the consuming public are to become better controlled than ever before. The task of Herbert C. Hoover and his lieutenants in building up the new Food Administration is not one that can be done in a day or a month, hardly in six months. When the food-control law was passed, many consumers thought the price of what they wanted to eat was going to drop the next day. Of course they were disappointed. Lately the Food Administration has taken an important step, assuming control of twenty basic food products through a system of licensing the wholesalers and large dealers, including importers and those in the cold-storage business. This license system, along with the strict rules promulgated, gives the Food Administration a powerful grip on the large dealer, which must count powerfully for fairer dealing as the months pass.

**MR. HOOVER** and his aides believe that under this system much of the speculation and manipulation in prices of foodstuffs can be prevented, for it will enable the Government practically to put out of business any of the wholesalers that engage in unfair practices.

Among those who must conduct their business under government license regulations are the manufacturer of package foods, the cold-storage man, the miller, the packer, and the commission merchant. The food-control law does not reach the retailer, but his turn may come next.

Just to illustrate one thing which has been done: For years the big cold-storage houses have been fighting legislation in Congress which would compel them to label perishable products going into storage so as to show the time products are kept in storage. They didn't want

the public to know the difference between fresh foodstuffs and cold-storage products. To-day, under a strict regulation promulgated from

Mr. Hoover's office, they are required to label foodstuffs so as to show how long they have been in storage, indicating when the products went into storage and when they came out.

The Hoover Food Administration and Secretary of Agriculture Houston and their officials and advisers realize that there is a vast deal more to the food problem than simply trying to meet the needs caused by the war emergency for a few months. They understand that the nation is at war for probably many months, that the struggle may last two or three or more years. They understand, too, that it would be a foolish policy to adopt a course which would cripple American agriculture instead of building it up and strengthening it. Therefore they are trying to meet the war emergency and put American agriculture in shape where it will go out of the war stronger than it went in.

**G. HAROLD POWELL**, one of the right-hand men of Mr. Hoover, for years prominent in the Citrus Fruit League of California, expressed this idea forcibly the other day by saying: "The food administration work is twofold. The war emergency conditions must be met, and at the same time the agricultural industry and the business of handling the foodstuffs of this country must be strengthened to meet the long-time demands of war and the reorganization period to come after the war."

The Food Administration and the Department of Agriculture want production of foodstuffs in this country increased, but they perceive that this cannot be done if prices for the producer are to be cut to pieces. They understand that if the farmer finds his prices demoralized and his calculations entirely overturned he will have no encouragement to increase production. The Food Administration officials must plan to meet conditions not only in 1918 but in 1919, and even longer, so as to insure safety and stability during the war and after peace is restored as well.

There is now good grounds for believing that as the war goes on ways will be found to mend many of the past mistakes of our distribution system for food and other staple products. Everyone knows that it is faulty and that the middleman has been taking too much toll from both the producer and the consumer.

It now can be said that in the coming session of Congress there will be an effort made to broaden and strengthen the food-control law. The retailer, as already said, does not now come under it. Some of the ablest men in the Food Administration are giving thought to plans for reaching the retailer by legislation, so as to prevent the unscrupulous retailer from taking undue profits.

The truth is that in Washington there is a rapid awakening to the fact that the United States has to play a part in this war much greater than was supposed when war was declared. Not only does it have to take a large part, but long-headed men are not wanting who now say the United States must later assume the leadership in the struggle. To meet this situation there must be such a mustering of the tremendous resources of the American Union as could hardly have been imagined a few years ago. And of these resources those of the soil are of the most far-reaching importance.

The world in arms has never yet realized the possibility of the American food supply. This is also true of ourselves. In the past our American farms have been made to produce just enough food to make sure of a national supply and all that the export trade would absorb at some degree of profit to producers. Now our farms must be made to show what they can do under the spur of necessity.

The stimulus having been supplied by war conditions will do more to magnify the greatness of America than anything that has ever occurred. This knowledge is sure to result in great good in our country after a world peace is concluded.



# The Call of the Hen

## Young Poultryman Permits No Slackers in His Flock

By BERTHA SNOW ADAMS



Young Goelzer keeps this flock actively scratching, eating, and drinking sixteen hours daily by means of artificial lights during the short days of fall and winter

EVERY boy dreams of a business of his own—being his own boss; but only now and then is there one who is able to make this delightful dream come true while yet in his middle teens, as seventeen-year-old Roy Goelzer, of Pierce County, Washington, has done. Although city-raised, Roy had always heard the call of the country, particularly the call of the chicken; so when his father moved from Milwaukee to a ranch in Washington a few years ago, Roy began at once to plan for a poultry business. It was necessary for him to earn the money for his start on the four acres his father set aside for his use, and he did it by raising rabbits, running errands, selling tickets for the local ball game on commission, and any sort of odd job to turn a penny.

When fifteen, he had money to buy 200 day-old chicks and enough lumber to build a brooder coop, so, although he knew nothing about raising them except what he had gleaned by watching the neighbors, he began straightway to realize his plans. But his initial start proved a dismal failure. Out of the 200 chicks, 177 turned up their toes and departed this life.

### Turns Failure into Success

"It was terrible!" Roy exclaimed as he told me the story of the tragedy while we were sitting in his little office at Crystal Spring Poultry Farm; "but it was a good thing, I guess, for it made me realize, as nothing else would, that keeping chickens is a real business, just the same as keeping store or hotel. A year ago last winter the Western Washington Experiment Station gave a special course in poultry-raising, and I took it. The first of the following March I got my certificate and started in again to a better purpose. Out of the 600 chicks I hatched I succeeded in maturing 240 pullets that started laying the middle of October. When I balanced my books the thirty-first of that month [here Roy consulted a big ledger on his desk] they had cost me \$121.50, and had earned me \$11.13. In November they laid 2,063 eggs, which brought \$88.10. Feed cost \$27.55, leaving a net return of \$60.55. During December, when eggs brought top prices, I sold \$156.93, paid \$40.80 for feed, and earned a net balance of \$116.13. All through January they laid fine, but in February, when other hens around here were starting to lay, they began to quit, and only gave me a moderate production thereafter. But seeing they were there with the goods when eggs brought big prices, I was ahead of the game."

"How was it your hens happened to lay when other folks's didn't?" the "Kid Poultryman," as he is known locally, was asked. He grinned broadly.

"Because I made 'em work overtime," he explained. "Every afternoon at 4:30, when Biddy began to chant 'The Shades of Night are Falling Fast' and prepared to turn in, I put one over on her by lighting a couple of those 'daylight' style of gasoline lanterns. The scheme worked like a charm. The hens stayed right on the job till 8:30, when I turned

out the lights. At 5:30 A. M. I lighted them again and back they came to the floor litter, scratching away for dear life. I kept the lanterns burning in the morning till 8 A. M. Some of my neighbors prophesied dire calamity—said my hens were bound to die, being forced to go contrary to nature like that; but so far I have not lost any to speak of, and I believe it's only a question of time before the use of artificial light, during the short winter days, to make hens lay will become a general practice."

Young Goelzer didn't have just what he wanted to breed from last spring, so he bought 1,000 day-old chicks, but he is now trap-nesting and weeding out the inefficient, and next spring he expects to hatch his own chicks.

"Yes, I've done very well for a beginner, the experts tell me," Roy admitted modestly. "I've got a layout here that cost between \$300 and \$400, and 240 hens and as many more pullets, worth \$1.50 apiece. The pullets are in the pink of condition, and are making a good showing in paying the cost of raising them, and my year-old hens are nicely through the molt and most of them in full lay. The present fine condition of my yearling hens furnishes another argument for artificial lighting. By forcing heavy laying through the late fall and winter they naturally slack up laying earlier in the summer, begin molting in July, and are full feathered and ready to lay by October, when the price of a dozen eggs will pay the layer's board bill for three months."

"The poultry knockers all around me are singing in full chorus of the lack of profit from hens. Sure, the feed bill has about doubled, but so have egg prices, which leaves just as much profit as before, and every egg laid now is in demand. It brings the hen business down to a business basis and compels the hen man to get results by breeding for heavy egg production and culling out slackers."

"How can I tell the poor layers? Well, there are a lot of rules for picking the

good layers and spotting the drones. Some of the rules I have learned about and am trying out are these: The most promising pullets will develop quicker than the ones that will turn out to be slackers. Any of my pullets that are not laying when six months from the shell, or soon after, go to the poultry dealer. After starting they must hit up a good lively pace too, as proved by my trap nests, or else they don't get a place in my breeding pens.

### Pullet Earns 75 Cents a Month

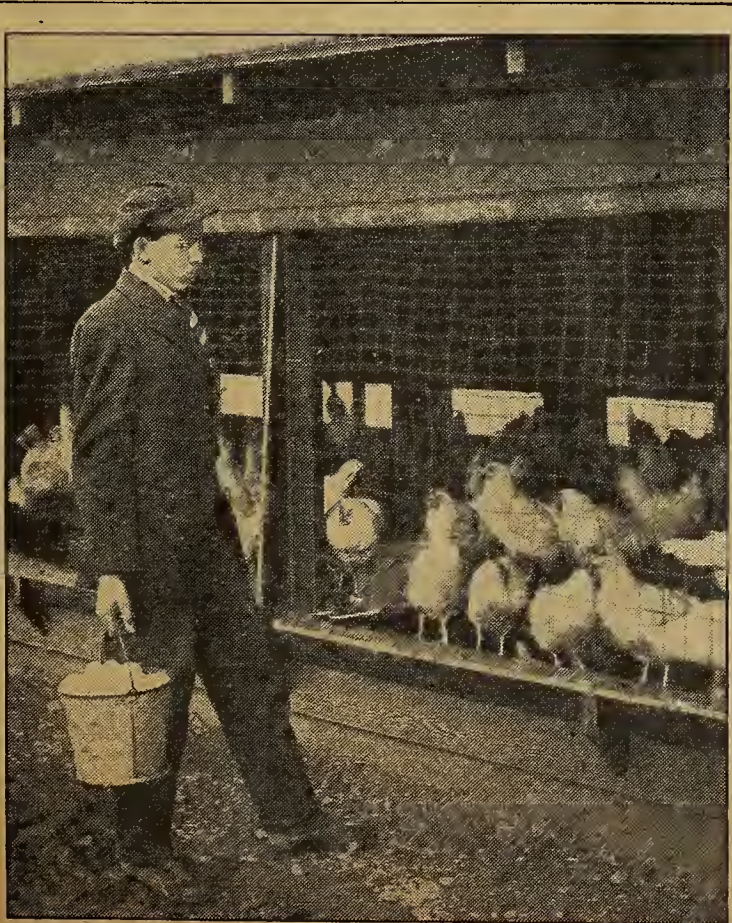
"A pullet that makes a 50 per cent lay from November to March will have earned \$3 at present egg prices, which will pay her board bill since hatching, and leave at least one dollar of profit, and the pullet is still worth a dollar for meat."

"I can tell my best hens in the spring and summer by a lot of signs besides their trap-nest records. The best laying hens are the hustlers. They are always scratching and singing, heads bright red, with combs like velvet. And the heaviest layers have bleached out shanks, while the poor layers' legs remain yellow. The 'lay bones' of the poor layers are close together, and their toe nails grow long by not scratching. There are some body signs besides which I am studying, including the angle of the tail or, if they don't, their daughters quite surely will. There is a California chicken man, named Hogan, who may be nothing but a crank, but he claims to be able to pick every hen that will make a heavy layer just by handling her after the pullet comes to laying age. I am trying out his rules too."

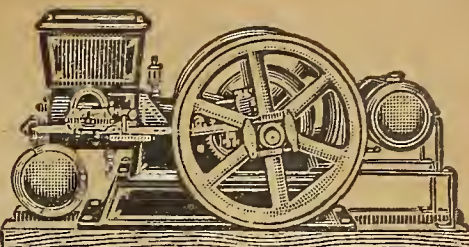
"But it isn't what I've made that means so much to me—it's being in business for myself. I'm not yet entirely free from debt, but I will be one of these days; and my plan is to go on gradually enlarging my plant so that when I'm twenty I'll have 1,500 layers and 800 breeders, for I expect to raise chickens for the market. With meat prices where they are, there's bound to be good money in the poultry business; but I'd advise the union man to let it alone, for it's no eight-hour-day job. To succeed with chickens you've got to start in early and work hard and late seven days a week, and to get all there is in it you've got to enjoy the work thoroughly besides."

Asked if he thought boys had as many chances to get ahead in the country as they have in the city, Roy Goelzer became emphatic.

"They sure have!" he declared. "But the trouble is, most city boys are afraid of the country. They always speak of country fellows as 'rubes' or 'hicks,' and seem to think they've said something smart. But by the time I'm twenty-one I intend to have more money than any one of the boys I used to go to school with has made for himself sticking around the city, and a good business in addition. Yet I suppose if the boys knew what I'm doing they'd call me a 'hick' or a 'rube' and feel awfully sorry for me. But don't think for a minute that is bothering me a bit."



Fresh air and pure water—the cheapest of all supplies—are egg makers, this boy contends



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# FARM and FIRESIDE

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With which is combined Farm News  
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December 1, 1917

## Our War Crop

FALLTIME is the period of fruition and fulfillment. Now that the record of the 1917 season has been written, that the last of the harvest has turned to gold, if it has not actually been garnered, the American farmer—man of faith and of work—feels a satisfaction such as he has seldom felt.

At the opening of the season, when the cry went up to raise a war crop, this now happy husbandman determined to more than "do his bit." With characteristic energy he went in to do his best. No union hours could he observe. Instead, he worked early and late, and often, too, in the rush of planting or harvest days, wife and daughter worked in the field with him. Never was labor scarcer or more expensive; never was the cost of crop production greater; but not even when the prospect was discouraging did the planter hesitate or let up because of expense.

What is the result? What is the answer of the man who made the dirt fly in the back field while the flag flew in the front yard? Why, the answer is that against the seven-billion-dollar war loan authorized by Congress last spring the American farmer has matched a seven-billion-bushel war crop.

Now, isn't all this enough to make us feel that we have a special cause for congratulation and thanksgiving this year? Surely, the Master of the Vineyard has rewarded the honest toil of the untiring and faithful laborers.

## A Blessing in Disguise

THE unprecedented high cost of stock feeds is destined to be the greatest blessing our stock-raising industry could experience. Every essential stock grain and by-product concentrate now costs four- and fivefold more than a decade ago, and nothing but the very best in stock animals—dairy, beef, pork, mutton, poultry, and horses—can now return a profit for the super-expensive feeds consumed.

The superiority of highly improved stock in its ability to make more profitable returns for feed consumed has heretofore been quite generally understood by stockmen, but for reasons which in the past have seemed important, thousands of men have continued with scrub stock.

But now the day of decision is forced to the front. No breeder or feeder of food-producing or power-producing animals will much longer continue pouring golden feedstuffs into mangers, troughs, and hoppers to be consumed by scrubs and merely to get back new dollars for old ones, or less. One heartening example among many is the action of a Hampton County, South Carolina, club

buying a score or more of Percheron mares, a registered sire of same blood, also a pure-bred jack, with which to improve their farmwork stock. Similarly, a Ripley County, Missouri, farmers' organization has just completed a movement which has furnished their community with two carloads of Hereford and Red Poll sires and some choice breeding females. The list might be extended indefinitely.

This drive for stock betterment has come after too long delay, but all can bless the day of its coming. Little argument is now needed to show why the slacker stockman should join this movement for better stock. He is learning that the alternative is better stock or no stock, whether clothed with hair, bristles, wool, or feathers. All power to the drive!

## The Big Crop Trio

FOR a generation and more, cotton was Uncle Sam's overtopping cash crop, holding supreme sway as the foremost farm money-maker under the title of "King Cotton." Then came the ever-persistent call for more and still more of the world's best stock grain—corn.

Gradually, but surely, cotton was overtaken in the race for precedence, and corn wrested the crown of gold from

## Tractor Production

THE Society of Automotive Engineers which includes experts of the automobile, gas engine, and tractor industries, has announced some surprising figures on tractor production. Last year American manufacturers produced 39,000 tractors, and during 1917 hoped to build 70,000, but difficulty in securing materials and labor has cut this figure.

The estimated number of tractors that will ultimately be used on farms in the United States is a million. Of course, it will take many years to reach this number, but from present indications most of the tractor manufacturers will be unable to fill orders as they are received during the early part of 1918.

Persons who have been obliged to wait several months for the delivery of a motor car know the annoyance of such delays. It means the loss of pleasure and convenience. But delay in the delivery of a tractor may shatter next year's prospects for abundant crops. For these reasons it will be unwise to sell horses this fall unless an order for a tractor for early spring delivery has been sent and accepted. Prospects are good for the production of 100,000 tractors during 1918; but remember there is use, and a possible demand, for a million machines.



Misplaced missionary work

## Our Letter Box

### Half Century Farm Records

DEAR EDITOR: When I took over my farm I found plenty of rats, even in the house. I used traps in the fields for gophers, and they were very effective, but seldom could I catch two rats in the same trap. There were no dogs or cats on the place, so I got a good dog and also raised some cats, and with the aid of them I cleaned my premises in short time.

I have farmed forty years, and of these, twenty years in this country. My wife made butter and I did the churning—of course it was the old way. I kept strict account of everything on my farm, and I was able to know beforehand how much butter we would get from every churning. On account of sickness of my wife I delivered the cream for one year to a creamery, where the cream was tested by a Babcock tester, and was paid for according to that test. I had no reason to complain about the price, but about the test.

It sounds strange, but we churned more butter out of our cream by the "old way" than the creamery did by the mod-

ern way, or maybe it is more correct to say than the creamery claimed to get. We lost considerable percentage every week, so my wife insisted on making butter again. I have kept records since 1866, and since that time had never to deal with any guesswork whatever.

REINHOLD LIEBAU, Wisconsin.

### A Hired-Man's Wife Talks

DEAR EDITOR: I think I have never noticed many letters from Iowa. I am a hired-man's wife and am writing my experiences. I lived in the hospitable South for six years, but at the time of the floods we lost nearly all we had, sold the rest for very little, and came to Iowa to start over again.

The first time the lady we worked for came to my house, she brought the mail to me. I was lonely and was glad to see her. I told her I was, and she said, "Oh, I didn't come to visit." My feelings were hurt, for I was not used to that curt kind of answer.

In the South, where we had lived, the people were such nice neighbors—rich or poor. I felt then and there that she thought she was above me. Maybe she never thought it at all, but I've always had a queer feeling against her. I was at her house only one time that year. I have two children and she has none, and I know I can't keep them as neat as pins.

The house we live in would do if it were ever repaired. It has old paper and dirty ceilings. The kitchen is not ceiled and the cellar is full of water when it rains. I have no heart to try to live here. We left on this account once, but we had to come back. My husband likes the man, and to work for him, but I am dissatisfied here and would never have come the second time if it had not been that we had to live somewhere.

That story about the hired-man's wife in a former issue was worth much to me, for I know it's true. We can't have even a few hens at this farm. We ourselves have to cook and eat and live in one room. It is very uncomfortable in summer and inconvenient in winter. They are good people, but they care not for poor people that have to work for them.

MRS. F. DUGAN, Iowa.

### Getting a Lot Out of Life

DEAR EDITOR: We have taken your good sensible farm paper for several years, and like it more as we see more of it and its improvements. The fancy-work department I lend to my friends and neighbors, as they find many crocheted patterns, and the pictures are so plain they can make them without directions. Some read the entire paper. The cover pictures are very attractive.

I wonder how many readers go to their neighbors for friendly visits through the winter while we are not quite as busy. We have been getting up little parties—sometimes on the birthday of either the grown-up son or daughter, or more often the birthday or wedding anniversary of the parents.

We meet and spend the evening, leaving some slight token of good will, and taking our refreshments with us so as not to put them to too much trouble. Just now we are making it a shower of graniteware, each family taking a piece of same.

We try many of our stunts, and of course have music, filling the evenings with pleasure. Everyone enjoys these gatherings, and it helps to make good feelings in the neighborhood. We all feel better after uniting and hearing what they are doing and going to do, getting recipes and the general news.

Another subject I wish to speak of: I for one go in to a neighbor's and help her with a difficult piece of sewing, or if she drops a word that she is expecting company or feels rushed with her work for any special reason, I go in and help a little, and she gets over it much easier for having a visitor who passes the time by helping instead of hindering.

I also take care of the sick baby a few hours, or take the well ones for a day to let the tired mother have a little change. These things are of some benefit to me as well. I find it a pleasure to help someone, and I also have two or three friends that help me when I paper my rooms, which I deem a great help. We have an all-day visit and dinner.

MRS. W. F. BROWN, Massachusetts.

### Glad to Help You

DEAR EDITOR: Some time ago I saw an article on the "Acetylene System of Lighting" in one of your FARM AND FIRESIDE magazines, and wrote you in regard to the trouble we had been having with ours, including difficulty in getting some of the "sharkers" or "friction lighters."

It was through your influence that we received them and we wish to thank you very much for your kindness and trouble.

ERNEST S. HOWARD, Vermont.

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78A8209 One-piece Congoleum Utility Rug, size 6x9 ft. These rugs lay flat without tacking and will not crack or curl. They look well and wear well. Can be washed clean with soap and water. Shipping weight, 23 lbs. Price, each ..... \$4.85

### 9x11-Velvet Rug \$15<sup>65</sup>



78A10602 A Seamed Velvet Rug of good weight, closely woven in a beautiful colored floral design with tan ground, green and red colorings. Size, 9x11 ft. Shipping weight, 23 lbs. Price, each ..... \$15.65  
Other rugs shown on pages 781 to 788 of "Your Bargain Book."

### Double Couch Beds



75A2242 A Double Steel Couch Bed in popular design. May be used as two separate couches or as a double bed. Furnished with guaranteed Romelink fabric spring and a soft cotton mattress. Each couch 5 ft. 10 in. long, 24 in. wide and 17 in. high. Shpg. wt., complete, 80 pounds. Price, each ..... \$7.95

### Kitchen Chairs



85 Cents Each

75A1168 Good Strong Kitchen Chair, made of solid kiln dried hardwood, finished in golden oak gloss, perfectly fitted back posts, braced to seat as illustrated. Height 36 1/2 in. Seat 15 1/2 in. Shpg. wt., 12 lbs. .... \$85c

For all kinds of chairs see pages 736-777 of "Your Bargain Book."

Real economy means the abolition of extravagance and the purchase of necessities at the lowest possible prices without sacrifice of quality. Economy means buying DIRECT—making a handsome saving over retail prices—taking advantage of quantity purchases at cash prices in the best markets.

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The items here represent only a few sample values. There are 100,000 more in the pages of our catalog, "Your Bargain Book," which you have in your home. Get this book out today! It will help you make every dollar you spend go farther and show you the way to real ECONOMY.

### Granite Art Square

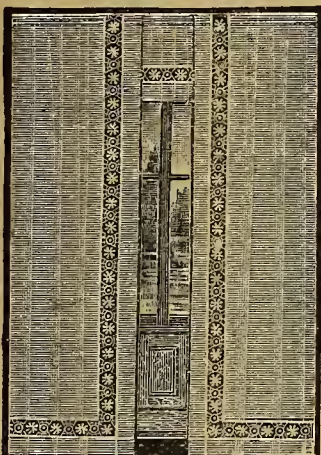
\$2<sup>65</sup>

Size,  
6x9  
Feet



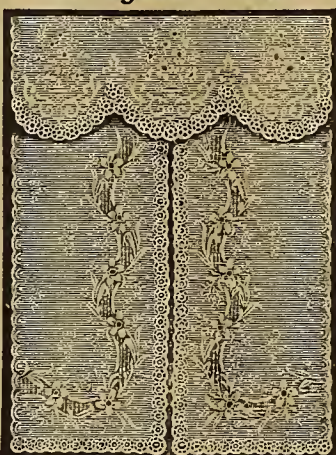
78A8273 A 6x9 ft. Granite Art Square of Kural quality. One of the heaviest kinds made. Reversible rug splendid wearing qualities. Shpg. \$2.65 wt., 6 1/2 lbs. ....  
Other sizes and patterns shown on pages 780-794 of Your Bargain Book.

### Scrim Valance Curtain



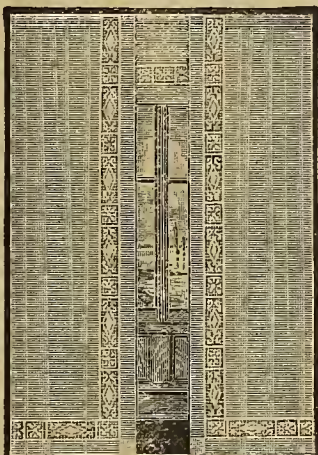
38A2075 A neat Scrim Valance Curtain, trimmed with 2-inch fllet insertion and 2-inch hem. Each curtain 2 yds. 6 in. long, 22 in. wide; valance, 26x15 in. Already hemmed for use. Shpg. wt., 1 lb. .... 79c

### Nottingham Curtain



38A3003 Lambrequin Nottingham Curtain in one piece, divided at the bottom to look like two curtains with valance. Width, 60 inches. Length, 3 yards. Shipping weight, about 1 1/4 lbs. .... 76c  
Price, complete ..... 76c

### Scrim Valance Curtain



38A2080 Scrim Valance Curtain with beautiful fllet insertion. A Colonial effect. Each curtain 26 inches wide, 2 yards 6 inches long. Valance is 27x15 inches. Shpg. wt., 1 1/4 lbs. Price, complete ..... \$1.15

### Tapestry Brussels \$8<sup>95</sup>



78A8490 A Seamless Tapestry Brussels Rug 6x9 ft. Comes in a rich floral design, well covered; has a medallion center of green and brown with delicate shades of tan and a border of red roses. Shipping weight, about 11 lbs. Price, each ..... \$8.95

### White Enameled Crib

Drop Side  
Posts  
1 1/2 in.  
diameter

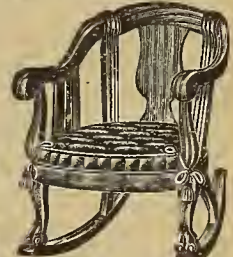


\$8<sup>65</sup>

75A2625 Steel Crib 47 inches high, 4 ft. 6 in. long, 2 ft. 6 in. wide. Has a link fabric steel frame spring. Height from spring to top of crib, 23 in. Shpg. wt., 85 lbs. Price, each... \$8.65

### Loose Cushion Rocker

\$6<sup>95</sup>



95A2165 Loose Cushion Parlor Rocker, made of selected birch. The cushion is made of genuine hair covered with a mercerized plain green velour. Seat frame is very heavy to which the legs are bolted. Claw feet legs. The seat is veneered. Measures 24 1/2 inches wide, 20 inches deep and the back in 20 1/2 in. high above the seat. Shpg. .... \$6.95 wt., 35 lbs. Price.....

## For Big Bargains in Home Furnishings, See "Your Bargain Book"

### Oak Kitchen Cupboard, Glass Panels

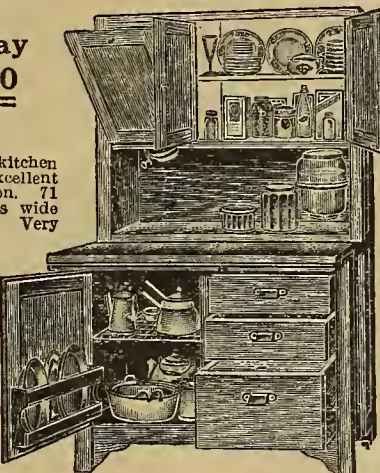
\$6<sup>45</sup>



95A2606 Glass paneled kitchen cupboard made of hard wood with solid oak front, finished in golden oak gloss. The upper section of cabinet has shelves. There are two roomy drawers and a spacious cupboard underneath. It is 78 inches high, 38 inches wide and 15 inches deep. An exceptionally well made cupboard. Shipped from warehouse in Buffalo, N. Y. Shipping weight, 110 pounds. Price ..... \$6.45

### Oak Kitchen Cabinet With Sliding Nickeloid Tray

\$16<sup>30</sup>



75A398 Handsome kitchen cabinet with many excellent features of construction. 71 inches high, 40 inches wide and 26 inches deep. Very strongly built of selected stock with light golden oak finish. The top cupboard has white enameled interior. It is fitted with a removable all-metal flour bin that holds 35 lbs.; sliding nickeloid tray, maple cutting board and every convenience for time saving. Shpg. wt., 130 lbs. Price ..... \$16.30

For other styles and prices of Kitchen Furniture of every description, see "Your Bargain Book"

These are only a few of the 100,000 bargains in "Your Bargain Book"—our 1000-page catalog, which you have in your home. It lists practically everything you need. Get this book out today and begin to save money!



\$5<sup>90</sup>  
Imitation  
Brown  
Spanish  
Leather  
Covering

Reclining back attachment and foot rest. Seat 21x17 in. with steel spring construction. Arms 4 in. wide, back 25 in. high from top of seat. Shpg. wt., 60 lbs. 75A56-100 Solid Oak, \$5.90 golden finish. Price..... 5.90 75A56-200 Birch finished mahogany. Price.....

### Hardwood Rocker \$2<sup>22</sup>



75A1164 Hard wood Rocker, golden oak gloss finish. Back 28 inches high. A well shaped solid wood seat 18 inches deep, 21 inches wide. Shipping weight, 20 lbs. Price, each..... \$2.22



### Dining Room Table Chair to Match



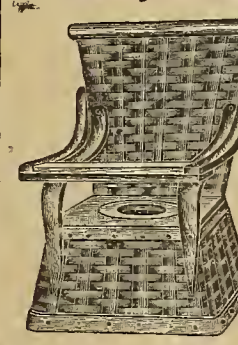
Golden Oak \$9<sup>95</sup>

\$1<sup>98</sup>

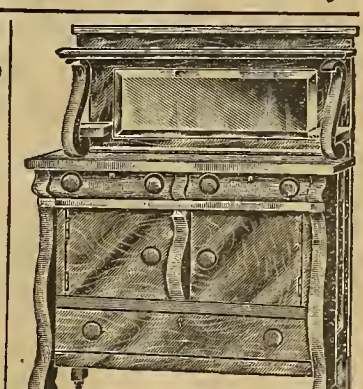
75A1111 Solid oak with top, back slat and panel of quarter-sawn oak in golden finish. Box seat covered with genuine black leather. Height of back, 22 in. Seat, 17 1/2 x 15 1/2 in. Shpg. wt., 14 lbs. Price, each \$1.98

75A2435 6 ft. Extension Table with 42 inch top and 8 inch pedestal of latest design. Massive legs, with claw feet. Made of solid seasoned oak, golden oak gloss finish. Complete with leaves. Shpg. weight, 165 lbs. Price..... \$9.95  
For Tables of other styles and finishes see "Your Bargain Book."

### Nursery Chair



75A348 Nursery Chair made of woven splint wood, brown color. Fitted with swinging tray. Seat is 12 inches wide. Wood parts finished to match. Splendid value. Shpg. weight, 6 lbs. Price, each.... 95c



75A289 Solid Oak Colonial design Buffet 59 in. high of golden finish with beveled French plate mirror 30x10 in. Top of base 42 in. wide by 21 in. deep. Linen drawer 36x14x7 in. Cupboard 39x17x16 in. Shpg. .... \$16.90 wt., 180 lbs. Price, each..

### Oak Bedroom Set



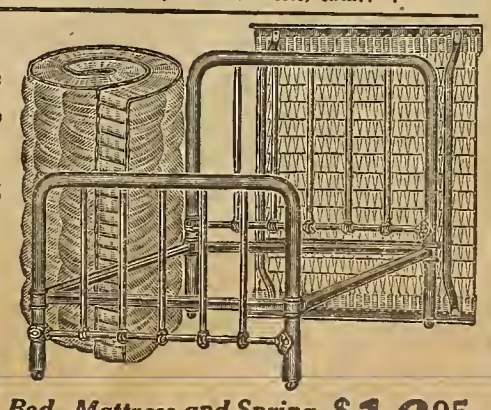
\$19<sup>80</sup>

Also Sold Separately

Three pieces to match, all of selected material, fully guaranteed. 75A595 Neatly designed wash stand of selected plain oak. Top is 30 in. wide and 16 in. deep. Golden oak finish. Deep drawer measures 10 1/2 x 23 x 1 1/4 in. The closet is 14 1/2 in. deep and has two paneled drawers. Shpg. wt., 65 lbs. Price, each.... \$4.95 75A596 Dresser to match, of the same good quality. Has perfectly fitted drawers. Top measures 38x19 inches. Fitted with 24x14-inch beveled mirror. Has 2 large and 2 small drawers, nicely made and well fitted. Shipping weight, 115 lbs. Price, each.....\$11.35 75A594 Solid Oak Bed, golden oak finish. Head and foot board all paneled construction. Extreme height, 55 inches. Furnished in the regular full size only, 4 ft. 6 in. wide. Shipping weight, 105 pounds. Price, each.....\$5.65

### Combination Offer

One of our biggest values. A bed, mattress and spring for \$16.95. Also sold separately. 75A2259 White enameled steel bed with two-inch posts and 5/16-inch filled rods. Widths, 4 ft. 6 in., 4 ft. or 3 ft. 6 in. Shpg. \$7.95 wt., 95 lbs. Price..... 75A2305 Romelink wire fabric spring, guaranteed for 10 years. Has 56 helical springs and double riveted frame. Will not sag. Widths, 4 ft. 6 in., 4 ft. or 3 ft. 6 in. Shpg. \$3.85 wt., 40 lbs. Price, each.....  
Mattress made of 44 lbs. of Canadian sea moss with heavy layer of new felted cotton on top. It is well tufted and covered with heavy ticking. Shpg. wt. of largest size, 54 lbs. 75A421-46 Size 4 ft. 6 in. x ..... \$6.10 6 ft. 3 in. Price..... 75A421-40 Size 4 ft. x 6 ft. 3 in. \$5.85 75A421-36 Size 2 ft. 6 in. x 6 ft. 3 in. \$5.60  
Be sure to state size of bed and spring.



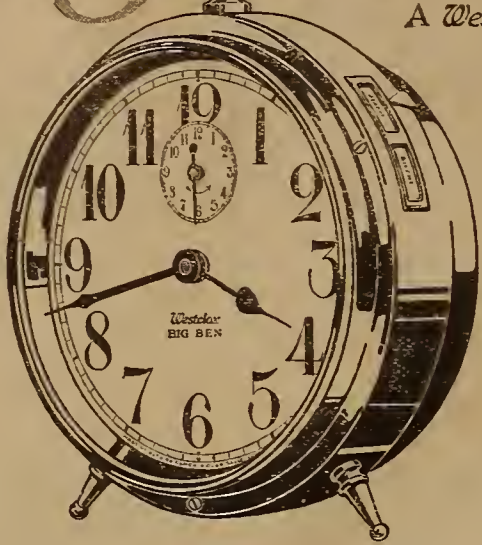
Bed, Mattress and Spring \$16<sup>95</sup>

# The Charles William Stores New York City



# Big Ben

A Westclox Alarm



## A Lifetime Friend

**T**HE Big Ben man in the evening of life enjoys ambition's contentful reward. Big Ben to him is a lifetime friend.

And you, in retrospect, at three-score-and-ten, will thank Big Ben of Westclox for each cheery morning call—his faithful comradeship through life—his thrifty guarding of your hours:

"Good fellow, Big Ben, he helped me live on time!"

Big Ben of Westclox is respected by all—sentinel of time throughout the world. He's loyal, dependable and his ring is true—ten half-minute calls or steadily for five minutes.

Back of Big Ben stands a community of clockmakers. Each year they build more than four million alarms—accurate, long-lived, almost friction-free. And Big Ben is their masterpiece.

Big Ben is six times factory tested. At your jeweler's; \$2.50 in the States, \$3.50 in Canada. Sent prepaid on receipt of price if your jeweler doesn't stock him.

LaSalle, Ill., U.S.A. Western Clock Co. Makers of Westclox

Other Westclox: Baby Ben, Pocket Ben, America, Bingo and Sleep-Meter

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Fireproof, weatherproof, durable—and reasonable in cost.

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give unexcelled service and satisfaction. These sheets insure greatest resistance to rust and corrosion, and are absolutely unequalled for Roofing, Siding, Gutters, Tanks, Flumes, Cisterns, and all forms of exposed sheet metal work. Look for the Keystone added below regular Apollo trade-mark—it indicates that Copper Steel is used. Sold by weight by leading dealers. Accept no substitute. Every farmer and owner of buildings should have our "Better Buildings" booklet containing valuable roofing information. Sent free upon request.

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No horses needed—no extra help required—one man alone pulls all kinds of stumps quick and easy. The Kirstin holds record for lowest land clearing cost. New patented features give enormous strength and power. Shipped on actual 30-day Free Trial—3 Year Guarantee and 6 months to return. Special Offer on One-Man and Horse Pullers—all sizes.

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## 160 ACRE FARMS IN WESTERN CANADA FREE

## Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat at over \$2 per bu. offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.

You Can Get a Homestead of 160 Acres FREE and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of Oats, Barley and Flax.

Mixed Farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

M. V. McINNES, 178 Jefferson Ave., Detroit, Mich.  
W. S. NETHERY, Interurban Bldg., Columbus, Ohio  
Canadian Gov't Agts.



## Greater Gasoline Mileage

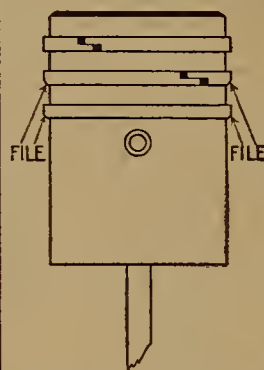
**A** WOMAN driver complains that she gets only about two thirds as much mileage from a gallon of "gas" as her friends who have the same kind of car, and wishes to know how to increase it.

A book might be written on this subject, but here are a few practical helps: First test the compression by turning the motor over by hand. A car that seems to be a gasoline eater, frequently has poor compression, which indicates that the valves need grinding, or that poor oil is being used, or, in the case of an old car, that new piston rings are needed. When compression is poor the explosions in the cylinder are weak, and the throttle must be opened considerably more to secure the desired power. This wastes gasoline.

The use of an unnecessarily rich mixture (gasoline and air) is another cause for excessive gasoline consumption. Carbon in the motor is still another cause.

## Cylinder Lubrication

By Charles E. Richardson



**I** REMEMBER reading in an engine instruction book the following:

"Remember that lubricating oil is cheaper than repairs."

Probably there is no other one thing that is the cause of wearing out more gasoline engine parts than the lack of proper lubrication. Without good lubrication the engine does not run as free as it should either, thereby causing a reduction of power.

A friend of mine owned an automobile which did not seem to run as it should. Together we looked the engine over carefully, and finally seemed to hear a scraping and squeaking inside of one of the cylinders. We came to the conclusion that the cylinder or piston did not get the oil as it should. So we took it apart and took the piston out, and, sure enough, there were shiny places that apparently did not get the proper oiling. It was the upper piston ring that was dry. As near as we could see we must make some way so that the oil would be carried to this ring.

We took out the two lower rings. Then we took a fine mill file and filed the lower edge of the outside, or corner, of each ring slightly. By doing this we figured that the upper corner of the rings would carry the oil up in the inside of the cylinder. When the piston came back, the lower corners, being square, forced the oil down and away, but by taking the corner off as we did it would leave a place for the oil to slide under the two lower rings and leave enough behind to oil the upper ring properly.

Since we have filed the lower rings as above described, there has not been any further trouble, so evidently the idea was correct.

I can see no reason why such a method as I have given above cannot be used to advantage on any style of gasoline or kerosene engine.

## Radiator Safe from Freezing

By D. S. Burch

**I** HAVE tried the various anti-freezing radiator solutions with indifferent success. Winter temperatures have the habit of falling just about the time a portion of the alcohol in the anti-freezing mixture has evaporated, and the result is a frozen radiator. This does not always mean injury to the radiator or water jacket, because if there is some alcohol present the ice will be soft and slushy. But it stops circulation, as the lower hose connection freezes first, and what alcohol remains in the unfrozen water boils away by the time the car has been driven a mile or two. So after I had purchased and used up three gallons of alcohol, at \$1 a gallon, I decided that draining the radiator at night was the safest course to follow.

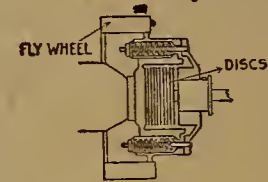
But here again experience showed that draining is not thoroughly effective, as all of the water does not always drain out. Little particles of scale or impurities in the water have the habit of preventing complete drainage. At any rate, the lower pet cock, though left open, would be found frozen the morning after a cold night. And sometimes the lower hose connection would contain enough ice to stop the circulation of the water when the radiator was filled and the car driven.

But here is a method which is absolute insurance against a frozen radiator and a cracked water jacket, when the car stands in the garage: Drain the radiator and engine jacket into a pail or receptacle of known capacity. The height of the water in this receptacle will soon indicate when most of the water has drained out. Then start the motor and allow it to run at a moderate speed for half a minute. In the meantime take off the radiator cap. Then shut off the motor and you will observe two things: the vibration will have caused additional water to drain from the radiator, and steam will also rise from the uncapped opening, indicating that the water jacket is drying out. This is usually a sufficient safeguard, but as an absolute assurance close the lower pet cock of the radiator and pour in half a pint of denatured alcohol. Now your radiator cannot freeze. By draining this alcohol before filling the radiator with water, you can use it over and over with but little loss. This method, of course, does not give protection when the car is used and left standing in cold weather for several hours at a time, since there is only water in the radiator. But if the hood is covered with a robe and thick cloths are tucked under the radiator to prevent cold air from reaching it from the bottom, little trouble will be experienced. Setting a lighted lantern under the radiator is another safeguard I have found successful, but it is a little dangerous.

The described method of draining the radiator, drying it by means of a hot engine and vibration, and then adding a little alcohol as a safeguard, is a sure and economical means of reducing winter motor costs.

## Automobile Clutches

By W. V. Relma



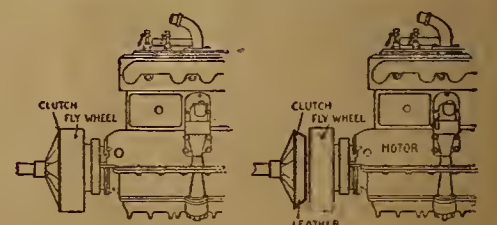
**T**HE clutch of an automobile is a device for connecting the motor and the driving mechanism of the car. The clutch permits the operator to connect or disconnect the motor at his pleasure.

There are two general types of clutches—the cone clutch and the multiple disk clutch.

The cone clutch is shown in the double illustration. The left-hand sketch shows the clutch engaged, or "in," and the right-hand sketch shows the clutch "out," or disconnected. When the cone clutch is "let in" to the receiving space of the moving fly wheel, it immediately revolves as a part of the fly wheel and transmits the power of the motor to the rear system of the car, and makes it go forward or back according to the gear in mesh.

The multiple disk clutch, shown in the small sketch, performs the same service, only it depends for its gripping action upon the contact of a number of plates or disks. These plates as they come together transmit the power, and when they are held apart the clutch is out.

A clutch should never be let in suddenly, as it will cause the car to jump forward, and will strain the entire machine, or it will stall the motor. Slipping the clutch is a method of holding it out



Position of cone clutch when engaged and when "thrown out"

just sufficiently to transmit enough power to move the car slowly, as in traffic, yet not far enough to free the engine completely. The driver will, in average driving, usually strain his car less if he will use his clutch pedal more and his brake pedal less. Sometimes a clutch will slip of its own accord, due to lack of proper adjustment. This, of course, should be corrected at once.

It is a good plan to throw out the clutch while going over crushed stone and to let the car coast across. This also applies to holes and bad places in the road.





## Vegetables to the Front

By S. Thorne

HIGHER meat prices are causing a greater consumption of vegetables and fruits, which will result in better health of the average person, particularly during the winter season, when many consume too much fat and food over-rich in animal proteins. A farm dinner recently enjoyed by the writer contained nothing from animal sources except butter and such fats as were required in the cooking and seasoning of the vegetables and fruits served. Here is the spread which left no want of the inner man unsupplied: Golden Bantam sweet corn, Golden Hubbard squash, Bonny Best tomatoes, sliced peppers, pickled cucumbers, bread and butter, honey, plum sauce, cake and cream for dessert. The bread, butter, cream, and cake were all home-produced, as well as the vegetables, which were perfect in quality and all cooked to a turn. Meat was not required or missed with such a meal.

## Last Call for Beauty Bed

NOT much expense nor much labor is required to have a beautiful show of tulips in some conspicuous place in the home grounds. The gorgeous flame of color, soon after winter's breath has left, will hearten up the observers wonderfully. Quick work may make possible an early spring beauty spot of this kind even now. Plant the bulbs about three inches deep and protect the bed with a mulch of manure.

## Fight Gapeworms Now

MANY have found that most garden and crop insect pests can be fought successfully in the fall by late working of the soil in which they are lurking. I have found that same remedy holds true with gapeworms. By plowing and working the yards and runways late in the fall, these organisms which are hibernating and changing form, to be ready for active spring operations, are killed or injured, and much less trouble is experienced, particularly if a heavy coat of lime is worked into the soil early in the spring.

But my best success in overcoming gapeworm trouble has been when I provided yards and runs on opposite sides of my brooder houses and rotated garden crops with chickens. A yard that has been well cultivated through an entire season while crops were being grown has never given me trouble from gapeworms the following year.

## The Onion as a War Aid

By Robert L. Winters

WAR necessities are stimulating a more exhaustive study of food-crop values than ever before. From now on the onion will hold a larger place among our staple food crops on account of its high food value, healthfulness, and its heavy-yielding quality under suitable conditions.

While it is possible to hold large

quantities of bulb onions in suitable storage, it now seems certain that enormous quantities of onions will be evaporated or converted into some desiccated form which can be safely shipped in closely pressed packages to the war fronts. Nothing in vegetable foods would be of greater value in the soldier's bill of fare than an occasional generous portion of onions.

Every farm and suburban garden should make sure of a generous-sized onion plot for 1918, and many more quarter and half acre onion crops should be arranged for. Not much hotbed space is required to start thousands of onion plants from seed, and the cost of seed is small. The possibilities of profit to those having well-drained muck soil or other suitable land is a matter that should not be overlooked. Let's boost onions in 1918!

## Sulphur My Cure-All

By Mrs. S. E. Bandy

WHILE the subject is fresh in mind, after another season's experience in using sulphur as a cure-all, I want to urge FARM AND FIRESIDE readers to be prepared to give this remedy a trial next spring, for I feel that were the benefits of sulphur better known much loss would be prevented. Flowers of sulphur is an excellent insecticide for small operations. It is perfectly harmless, and has valuable germicidal qualities.

I have saved fine fruit trees from the ravages of ground mice and root-injuring insects by sprinkling flowers of sulphur on the ground around the roots of the trees. I put a little sulphur in the hill when I set cabbage plants, and the cutworms never molest them. I also mix sulphur with lime and sprinkle the growing cabbage to keep off the green worms.

A teaspoonful of sulphur mixed with the soil in flower pots will kill the worms that prey upon the roots of the flowers.

I also sprinkle it on the rosebushes while the dew is on, to prevent mildew.

When I set hens I put a spoonful of sulphur under the nest material, and no mites will come near the sitting hens. I also sprinkle it freely over the hen-house floor, mixed with salt, and no mites ever bother.

Sulphur mixed with lard and applied to fresh cuts or old wounds, I find will keep off flies and heal sores on all kinds of animals.

BETTER make at once an active, persistent round-up and drive to get a final kill of all garden pests—both insects and plant diseases. Rake, scrape, and collect every bit of vines, stalks, leaves, and rubbish in and about the garden and burn to ashes, and thus destroy myriads of hibernating insects, insect eggs, and plant-disease germs. Neglected, they will be ready to destroy the fruits of your labors next spring.

## Potatoes Minus Dirt

SAY, potato raisers, have you not often wished that there were a few holes in the bottom of the pails which you use when picking your potatoes, to let the dirt sift through? Here is my scheme, which I think works fine for this purpose:

I first cut out the bottom of the pail, then get some one-inch mesh wire netting—a round piece six inches larger in diameter than the bottom of the pail. Place netting across the pail bottom and bend the edges up the sides. Next get a hoop that will fit snug over the netting, rivet it on tight, and the pail is ready for use. All loose dirt can easily be shaken out, thus saving time when emptying.

Get ready now for next year's crop.



The twenty-four onions here pictured in a half-bushel basket were grown near Tacoma, Washington, and averaged three-fourths pound each

# Ingersoll Radiolites

## The modern watches

Ingersoll Radiolite watches are the most modern watches in the world. *Everybody needs these modern watches.* They belong with automobiles, tractors, electric lights and telephones.

Everybody needs an Ingersoll Radiolite. For it shows time in the dark as well as in the light. A self-luminous substance—RADIOLITE—containing real radium, makes the hands and figures glow the time, surely, accurately and safely for 12 years or more.

*Ingersoll is on the dial of every genuine Radiolite. If Ingersoll is not on the dial it is not a genuine Radiolite.*

Buy a *genuine* night-and-day Radiolite from the dealer. He has several different models—three for the wrist, two for the dressing table—and a number for the pocket—\$2.25 to \$4.50. And *Ingersoll is on the dial of every one of them!*

**ROBT. H. INGERSOLL & BRO.**  
New York, Boston, Chicago, San Francisco, Montreal

*Illustrations 3-5 actual size*

Waterbury Radiolite \$4.50  
In Canada \$4.50. A small, handsome jeweled watch.

Eclipse Radiolite \$3.00  
In Canada \$3.75. Thin model, solid nickel case, guaranteed.

The Farmer—A match isn't a farmer's true friend—in a hay mow for instance

For every place—at night—in the day

Everyone—Under the pillow at night

## Crammed Full of Extra Value!

That's Hanes Winter Weight Underwear. Look at the big features in the illustration, then balance up with this:

Hanes is made form fitting—pre-shrinking keeps it true to size and shape—its natural elasticity makes it "give" with every movement—there's no itching, ripping or flaring, just warm and comfortable.

The answer is the finest underwear value in the world and at such popular prices.

**Test it yourself.**  
Ask a Hanes dealer for this underwear and see if it isn't the biggest value you ever saw. If you don't know a dealer, write us.

**Here's the Best Bet For Your Youngsters**  
A new union suit for boys—too strong and elastic to knock out at the knees and warm and cozy enough for the coldest days. Washing can't faze it. Its value can't be duplicated. Look these two big values over at your dealer's. Ask him for

Elastic Collarette that tightly fits the neck.  
Elastic Shoulder with lap seams that "give."

The Staunch Waistband—strongest made. Double gussets.

Closed Crotch. Stays closed. Comfortable and satisfactory.

**GUARANTEE**  
We guarantee every seam on Hanes Underwear.

Greatest Winter Underwear

**HANES**

Sold at Popular Prices

ELASTIC KNIT UNDERWEAR

**P. H. HANES KNITTING CO.**  
Winston-Salem, N. C.



# Your Buying Power is Doubled



ANY lumber you bought for building purposes three years ago, at the beginning of the European war, cost you more than twice as much in farm products as the same material will cost you today. In other words, your lumber purchasing power has doubled, and then some, in three years!

That is because lumber has increased **little** in price, while farm products have increased **much**.

This is the time, then, for you to build whatever you may need in farm structures—a new home, a barn, a silo, a grain bin, sheds, cribs, hog houses,—using the most economical, serviceable and workable wood,

## Southern Pine

*"The Wood of Service"*

Southern Pine is perfectly suited to **all** your building needs. It is plentiful, in spite of the Government's use of enormous quantities for war building. It is the lowest priced good building material.

On request, we will send you **absolutely free**, valuable building helps for all classes of farm structures. Just mention what you are planning to build. Also, for the boy who is handy with tools, we will send free a copy of a book issued by the U. S. Government (and for which the Government charges 15 cents) showing how to build many useful articles.

**WRITE NOW, addressing**

**Southern Pine Association**  
1129 Inter-State Bank Bldg. New Orleans, La.



Farm Building

### The Coal Chute

By William F. Miller

IF YOU contemplate storing coal in the cellar, then have a coal-chute window. It will save wear and tear on the foundation and the siding above the chute in a manner that the ordinary cellar window will not afford.

There are concerns that make a specialty of manufacturing coal-chute windows, and the cost of one is about \$12. All the parts are metal, and they are made with or without glass in the exterior face.

The sash, glass, and frame of a common opening for the basement will cost \$3. Deduct that amount from the price of the metal chute and the actual cost will be \$9.

Nothing looks worse about the house than the frame of a cellar window that has been bruised by chunks of coal and the siding above indented by the smaller pieces of fuel being thrown against it. Then, very often the glass in the sash is broken from the same cause.

The equipment is made ready to place in the wall, and a stonemason can set it with as little labor as it requires for the old style window.

the rough places in the wood, but it should not be used for a final dressing. Insist upon having the floor hand-dressed. It should be planed, then scraped, and afterward thoroughly sandpapered. If that is done properly you will have a perfectly smooth surface.

Rooms floored with hard-wood borders and standard hard pine fields will cost about the same as common floors covered with a good quality of carpet, and it cuts down the task of cleaning house considerably.

The standard hard-pine flooring is three and one-quarter inches wide. A popular width for hard-wood flooring is two inches.

### Comfortable Sun Porch

By A. L. Roat

SEVERAL years after we bought our farm we decided to enclose the front porch so as to keep out flies and insects in summer, and to make it a comfortable place in the winter also. The local carpenter boarded it up solid to a height of three feet from the floor and then put in sash.



The enclosed porch as it appears from the outside

### Another Short-Cut

IF YOU cannot afford to have the floors of the rooms entirely covered with hard wood, then floor the borders. Have the borders such widths that stock-size rugs will cover the joints where the fields and borders meet.

The cost of flooring the borders only with hard wood is about one half the price for covering the whole room.

Plastering lath of equal thickness or strips of dressed wood should be nailed on the tops of the fields. That is done so the top of the floor and the surface of the field will be level. The finished floor for borders is three eighths of an inch thick, and should be laid on a sub-floor seven eighths of an inch thick.

The plastering lath or dressed strips are just as thick as the finished floor, and the flooring for the fields is the same thickness as the subfloor for borders. That will make the surfaces level on top.

Do not allow the borders to be machine-dressed. That is not a success, as waves will show after the floors are waxed or varnished. One kind of machine is a blade, used as a scraper, secured in front of a heavy-weighted frame. It has a shaft and a handle similar to a lawn mower and the weighted frame and blade are on wheels. It is worked by pushing the machine from the operator and then pulling it back, lifting the handle while in backward motion, so the blade scrapes the floor.

It is a very common thing to see a great quantity of scars in the wood right where the blade first touched the surface.

Another method of machine-dressing is with the rotary sander. It is a large cylinder completely covered with sandpaper, and is operated by electrical power. The apparatus is on wheels, and can be pushed or drawn in any desired position on the floor.

The machine is all right for reducing

Part of the porch, as shown in the exterior view, is permanently glassed in, but the other part, which is 18 feet long, is enclosed with glass only in the winter. As soon as spring comes we replace the sash with screens. Bronze or copper wire netting makes the most durable screens, though ordinary netting can be used if desired.



Inside view of the permanently glassed portion

In the summer we live outdoors. We set our table out there, and are comfortable. In the winter it makes a good sleeping-room, and it is very pleasant to watch the snow fall while we are comfortably ensconced between blankets and behind friendly shades.

### Painting Over Whitewash

I HAVE a brick house that has been whitewashed. The whitewash has washed off considerably in places, but on most of the bricks there is still a fairly heavy coating. I want to know whether it would be safe for me to paint over the whitewash?" This question comes from an Ohio reader.

The lime in whitewash is converted into carbonate of lime by action of the air in a comparatively short time, and in that form is harmless to paint.



Good farm buildings are an incentive to better farming in many ways. Good barns and corrals actually make work easier

## A DANDY DOLL FOR KIDDIES

### The Jubilee Dolly



WE HAVE many letters from FARM AND FIRESIDE folk who want dollies for their little ones. "Something real sweet and already dressed," as one of our women readers puts it. It is extremely difficult to get just the right kind of dolls nowadays, as the war has stopped importations, consequently dolls are much higher priced than they used to be. However, in casting about for dolls suitable for our little folks this year, we discovered this "Jubilee Dolly." She is a little beauty. Just the right size for a little girl to cuddle nicely. She is dressed in a tasteful costume of blue figured lawn, gathered in plaits and banded with lace insertion. She has a wide hair ribbon to match costume.

### A Well-Made Doll

This is one of the famous Horsman Dolls. You will find them advertised in all the big magazines. The head is a new model. Larger in size than the standard for this particular kind of dolly. The fabrics for the dresses are of excellent quality. We heartily recommend the Jubilee Dolly to you, and know that it will please the little ones immensely.

### You Must be Prompt

You haven't much time if you want to get one of these dollies for a Christmas gift, so we urge you to read our offer below, and then rush your order to FARM AND FIRESIDE so that we can get the doll packed and shipped to you to arrive before Christmas.

### Style Entirely New

It is a creation of the present season. We feel sure that a great many parents are going to be pleased with our selection. The doll will be sent postpaid, carefully packed, to insure safe delivery.

### Here is Our Offer

OFFER NO. 3—Send \$1.35 for a TWO-YEAR subscription to FARM AND FIRESIDE, either new or renewal, and we will send you one of the dolls, all charges paid.

OFFER NO. 4—Get 10 persons to order FARM AND FIRESIDE from you at 25 cents each per year, or 5 persons at 50 cents each for TWO years, send us the names and the \$2.50 you collect from your subscribers, and we will send you the Jubilee Doll by prepaid post.

### Clip This Coupon

Farm and Fireside, Clubraiser Dept.  
Springfield, Ohio F.F. 126

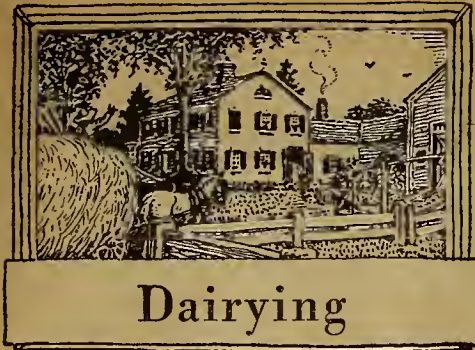
DEAR SIR:

I enclose herewith \$..... This pays for.....subscriptions to FARM AND FIRESIDE for.....years each and entitles me to the Doll. The subscribers' names are given below. Yours very truly,

(Subscribers' Names)  
NOTE: If you are to be one of the subscribers, write your own name in this column again. Subscriptions will be entered only for those whose names appear herewith.

1. Name .....  
Address .....
2. Name .....  
Address .....
3. Name .....  
Address .....
4. Name .....  
Address .....
5. Name .....  
Address .....





Dairying

Have Concrete Floors

By Wilbur Hawkins

BY INCREASING the value of the manure produced, cement floors in live-stock feeding will return their cost in about one year. Tight stable floors save soluble plant food from seeping away as it does with earth floors. Manure was increased in value by \$4.48 annually for every thousand pounds live weight of steers over that recovered from animals standing on earth floors in tests conducted at the Ohio Experiment Station. In the experiments 58 steers were fed. The cost of concreting was about \$4.50 a steer. Two six-months feeding periods would therefore pay for the expense of the concrete floors. Much of the fertility value of manure is in the liquid part, which is easily carried away through earth floors. Concrete prevents this seepage, making each ton of manure worth more, and at the same time there is a greater quantity of this material. Added to the profit of the manure is the great convenience of concrete floors.

Figuring Silage Values

By J. L. Justice

IF YOU wished to sell your corn silage, what price would you ask for it in order to sell it at a profit? No stated price can be set on silage, because it costs some farmers more than others; also, the proportion and quality of the ears affect its value. While few farmers ever sell silage, it is essential that they know its cost in order to determine whether they are feeding it profitably. A farm enterprise cannot be run on a business basis unless some system of accounts is kept. We have made a practice of keeping accounts of the cost of siloing, and while the cost has not varied greatly in the past three years, the value of the corn put into the silo has risen. Here are the cost and value as I have figured them this year, and which are accurate in every detail:

Cutting 9.88 acres of corn with binder, 2½ days .....	\$10.00
Cost, interest, depreciation of one-fifth share of binder .....	6.75
Twine for binding corn .....	7.70
Coal for engine .....	2.00
Board of men, two meals a day @ 20c. ....	5.40
Hired and exchanged labor at home. ....	14.75
Teams and labor, helping four others. ....	28.10
Engine hire, 1½ days .....	9.00
Cost, interest, depreciation of one-fifth share of cutter .....	13.60
Total cost of siloing .....	\$97.30
Cost per ton (110 tons) .....	\$88½

It is impossible, with the fluctuating prices of corn, to place a direct or absolute value on the corn at the time of siloing, as the future price is problematical. Corn at this time would not be in a marketable condition. The best that can be done is to place an estimated future value on it, or to figure its value later on when it can be sold to good advantage. Another good plan is to take an

average of the prices from the time of beginning to feed the silage until it is fed out. In arriving at the value of our silage this year, we have placed an estimated value of \$1.20 a bushel on the corn. Therefore, if our corn makes a yield of 60 bushels an acre, which it will—perhaps 70—we shall have:

9.88 × 60 = 592.80 bushels @ \$1.20 per bushel .....\$711.36  
Total cost of siloing ..... 97.30  
Total value of silage .....\$808.66  
Value per ton (110 tons) .....\$ 7.35

These figures are worth knowing, for they can be revised at a later period when corn values have become established.

The Dairymen Entertain

By Thomas J. Harris

CERTAINLY the publicity agents of the National Dairy Show, which was held at Columbus, Ohio, October 18-27, cannot be accused of having overstated the facts about what might be seen there. Take for instance the name, National Dairy Show. It was national. Herds from Seattle slept in stalls beside pure-breeds from Tennessee. It was even international in a way, for there were competing cattle from abroad. They called it a dairy show, and it was, but, what is more, it was an excellent horse, automobile, and farm machinery show. But the dairy show held the center of the stage. Several large halls were filled with dairy machinery and supplies. Manufactures booths held every appliance that a dairyman uses.

The judging was held in the big coliseum. The great size and seating capacity of the building can be understood when I tell you that the judging ring was 100 feet wide by 200 feet long, with seats on all sides. A system of scoreboards supplemented the announcer, making it easily possible to follow the judges and keep accurate record of the winners. The judging ring was the favorite place with the crowds. Shows usually make people footsore and do not furnish sufficient resting places, but the spectator could sit in an opera chair at the coliseum and watch the pick of the continent in dairy cattle and never be tired in the least.

If for the moment he preferred to see horses, they were at the other end of the ring; and if he did not care to see anything, just be there, a brass band hidden up near the ceiling offered a range of music from opera to ragtime. The outstanding spirit of the show was economy, and the substitution of dairy products for meats. The problem that was in every dairyman's mind was, What are we to do for labor, and how can we keep up with the rising cost of feed?

The solution of the labor problem, some said, is in the substitution of machine for man labor. Even the doubtful ones thought it might be the way. Nearly everyone was agreed that the answer to the feed problem is the higher producing cows and the individual weighing and testing of each cow's milk. Give the producing cow all the balanced ration she can manufacture into milk; give the loafer no mercy—sell her.

The educational feature of the show is worthy of mention; cows of different type were brought into the ring and a competent judge of dairy cattle showed how to tell a really good dairy cow.

Many interesting people in the dairy world were there. May Irwin, famous comédienne and actress, is an ardent admirer of dairy stock, and, indeed, she is also owner of a valuable herd of Jerseys. While at the show she milked one of the record production cows.



May Irwin, the famous actress, owns a herd of fine Jerseys. She proved at the dairy show that she could milk them

MILK ..... and WAR TIME



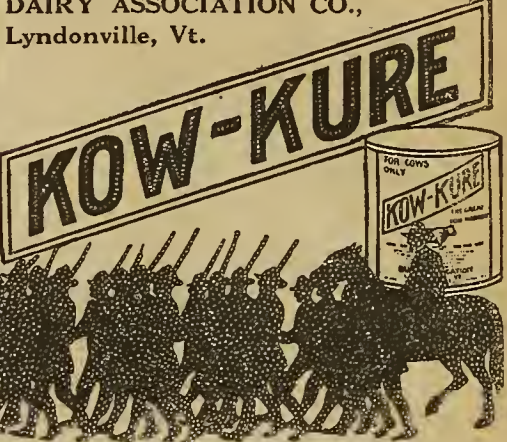
In these days of high prices for dairy products, the "poor milker" is more than ever a liability. But before you sell the cow that is not producing well, try to improve her condition. Her milk value is much greater than her meat value.

Most poor milkers are non-productive because of some defect of health, which can be quickly remedied by intelligent treatment.

Kure is a medicine that acts quickly on the organs of digestion and milk production. Its widely known tonic and curative qualities have made it the standard cow medicine for the prevention of disease and the treatment of Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite and Bunches.

Give Kow-Kure a trial; it will do for you what it is doing for thousands of others. Feed dealers and druggists sell Kow-Kure; 55c and \$1.10 packages. Send for free treatise, "The Home Cow Doctor."

DAIRY ASSOCIATION CO., Lyndonville, Vt.



ABSORBINE

Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Boot Chafes. It is a

SAFE ANTISEPTIC AND GERMICIDE

Does not blister or remove the hair and horse can be worked. Pleasant to use. \$2.00 a bottle, delivered. Describe your case for special instructions and Book 5 M free.

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MINERAL HEAVE COMPOUND

Booklet Free  
\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.  
MINERAL HEAVE REMEDY CO., 425 Fourth Ave., Pittsburgh, Pa.

Bone Spavin

No matter how old the case, how lame the horse, or what other treatment has failed, try

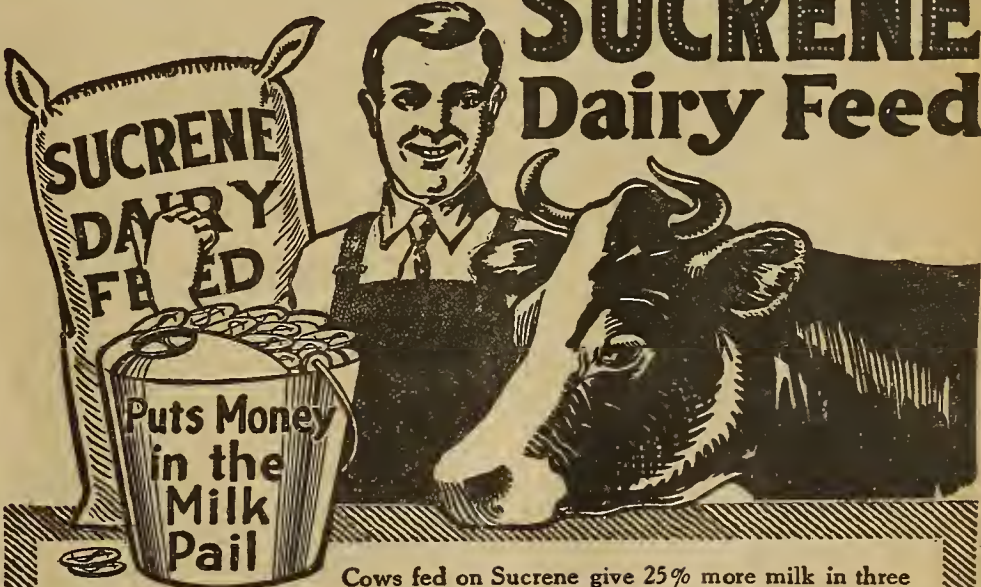
Fleming's Spavin and Ringbone Paste, \$2 a Bottle  
One application usually enough; sometimes two required. Intended only for the established cases of Bone Spavin, Ringbone and Sidebone, causing chronic lameness.

Fleming's Spavin Liquid, \$2 a Bottle  
For the recent cases of Bone Spavin, Ringbone and Sidebone and for Hot Spavin, Splint, Curb, Soft Enlargements, etc. Your money back if these remedies fail. Write for Fleming's Vest Pocket Veterinary Adviser. 192 pages, 67 illustrations.  
258 Union Stock Yards  
FLEMING BROS. Chemists, Chicago, Ill.

Perfection Straw Spreader

Increase your crops. Make \$10 extra per acre. A ton of straw contains over \$6.00 worth of fertilizer—builds up your soil. Easy to spread 15 to 20 acres a day. My new book tells you how. A post card brings it.  
C. W. Warner, Pres., WARNER MFG. CO.  
301 Union Street, Ottawa, Kansas.

SUCRENE Dairy Feed



Cows fed on Sucrene give 25% more milk in three weeks' feeding—at a substantial saving in feed cost. Our experts have demonstrated this fact many times with Sucrene Dairy Feed on our own experimental farms, and their experience is duplicated by thousands of dairymen and farmers.

SUCRENE DAIRY FEED, Hay and Water Is All Your Cow Needs

to make more milk. Sucrene Dairy Feed is a complete, scientifically correct milk-making ration, supplying necessary protein, carbohydrates, fats and mineral matter to meet the daily needs of the cow for milk production and for maintaining the body in vigorous health all the year 'round.

SUCRENE DAIRY FEED is composed of cottonseed meal, corn gluten feed, ground and bolted grain screenings, corn distillers' dried grains and solubles, clipped oat by-product, molasses, palm kernel meal, calcium carbonate and a little salt. Guaranteed analysis: 16½% protein, 3½% fat, 46% carbohydrates, 14% fibre.

Variety—Palatability—Easy Digestibility—Economy

are four important requisites which give Sucrene Dairy Feed its high place in the dairy world—16 years the recognized standard of milk feed quality. Save your high priced grain. Order a ton of Sucrene Dairy Feed from your dealer. Accept no substitute. A week's feeding will show satisfactory results in the milk pail. Write us your dealer's name, if he does not handle Sucrene, and we will see that you are supplied. Fill out and mail us the coupon, for valuable books on care and feeding of farm animals. Check the feeds in which you are interested.

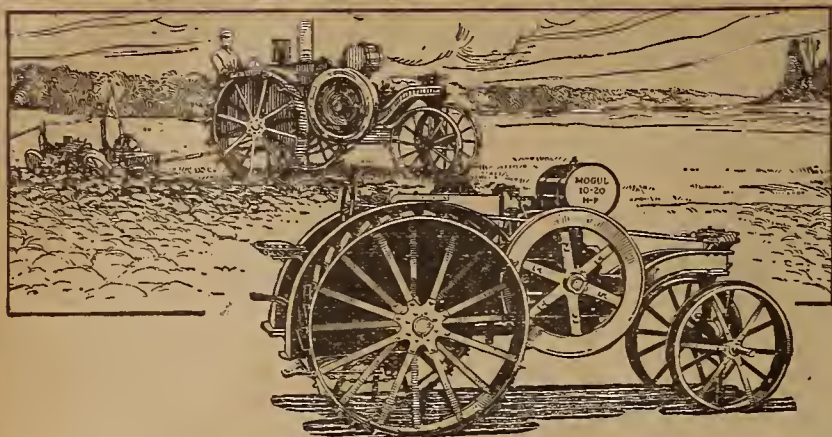
American Milling Co.  
Dept. 32 Peoria, Illinois  
(16 Years America's Leading Mixed Feed Specialists)

Please send me Illustrated Literature on feeds checked below. (32)

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## A Good Tractor to Own

A **MOGUL 10-20** kerosene tractor will go a long way toward solving your labor and expense problems. Men who use this tractor properly say it does as much plowing, disking and harrowing in rush seasons as three men and nine horses. In the heat of the harvest fields, and for summer plowing, three four-horse teams can hardly keep up with it, because it works steadily all day long.

Besides, it is so simple that almost anyone can learn to handle it efficiently. A few days' training in the handling of a kerosene engine is usually all that is needed.

These two features make the **Mogul 10-20** highly desirable. Add to them the fact that it operates on a fuel that you can always buy, and at a reasonable price, and you have a power plant that is hard to beat for all-the-year-round work in the field or at the belt.

You know the standing and reputation of Mogul tractors. When you buy a tractor, don't overlook this good, simple, reliable, economical three-plow **Mogul 10-20**. Booklets and folders give complete information. When you write for them, address

**International Harvester Company of America**

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A big opportunity for retired farmers and those acquainted with farmers. Sales are easy because our Clover, Timothy, Alfalfa, etc., are best variety, low prices. No experience or investment required. Write today. A. A. BERRY SEED CO., Dept. 50, CLARINDA, IOWA

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Not a solution but a perfectly atomized-Super spray that guarantees maximum fruit yields. Wonderful story of FRUIT-FOG. Spraying Guide and big Sprayer catalog FREE. Send postal today. No obligation. Hayes Pump & Planter Co., Dept. 60 Galva, Ill.

## Quaker City Feed Mills

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Clear your stump land cheaply — no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

Works by leverage — same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel — guaranteed against breakage. Endorsed by U. S. Government experts.

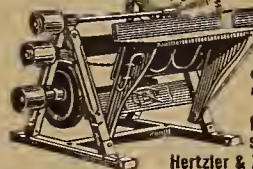
## K HAND POWER Stump Puller

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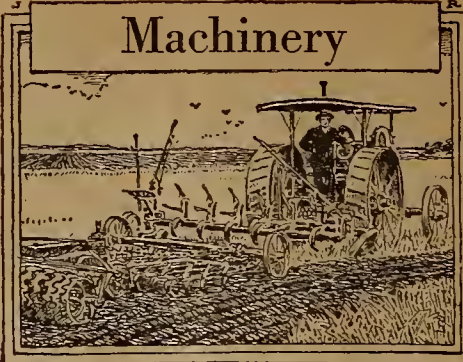
As low as \$9.90



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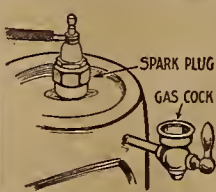
Backs this Hertzler & Zook Portable Wood SAW. This is the cheapest saw made. Only \$9.90 saw frame to which a ripping table can be added. Guaranteed 1 year, money refunded and all charges paid if not satisfactory. Write for catalog. Hertzler & Zook Co., Box 9, Belleville, Pa.

## Machinery



### Starting Cold Engines

By Chas. E. Richardson



ONE morning last spring I had a lot of wood to saw, so I hauled our large engine to the woodpile and got things ready. It was one of those days that started out quite cold in the morning, and warmed up along toward the middle of the day. The engine was cold, and I found on turning it over that there was very little compression. The piston rings were of course in their grooves, and because of the cold would not expand enough to give sufficient compression to start the engine.

As a rule I started the engine on compression, as it was too large to start by cranking without a great amount of hard work. But as the engine was cold I could not get enough compression to make the priming ignite.

So after working for a while I came to the conclusion that if I could only get an explosion it would warm up the piston rings and the compression would then be enough to start it. But by using the ordinary methods I was unable to get the explosion. Finally I took out the spark plug, moistened it with gasoline, and after putting it back again I primed the engine through the priming cup, turned it over, and away it went.

After that the piston rings were "thawed out," so I had no difficulty in getting enough compression to start it as I usually did it. I realized then that by putting gasoline priming directly on or near the spark, it would be more likely to ignite than by priming by the priming cup, which was not near the spark plug.

That gave me an idea: why not have it so that I could prime the first charge, close to the spark? So I tapped a hole close to the spark plug, found a gas cock, and by putting it on a small piece of pipe I screwed it into the hole that I had tapped, and after that when I wanted to start the engine when cold I first primed through the spark-plug priming arrangement that I had put on. Since then I have never had any more starting troubles. I also placed this priming cock on a "make and break" engine near the spark points, and it seems to be as effective on that as on the "jump spark" type. This method is particularly valuable when one desires to start a gasoline engine in very cold weather.

### The Low-Wheeled Wagon

THERE are so many advantages in favor of the low-wheeled wagon on the farm that I cannot quite understand why its good points were not more generally appreciated years ago. Even now, however, there is considerable argument in regard to their use, and this type of wagon is not used as much as it should and will be when its merits are discovered and fully appreciated. The talk against low-wheeled wagons is perhaps due to the fact that with narrow

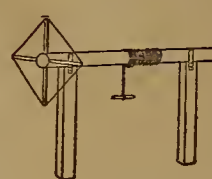
tires the draft is heavier. However, it has been clearly demonstrated that even though a low-wheeled wagon pulls heavier than a high-wheeled one under certain conditions, such as muddy roads, there are so many uses for which the low wagon is better that every farmer should have one. I have one low-wheeled, broad-tired wagon, and after having used it several years I would not think of doing without it. Being low, it is handy to load on, and the wide tires carry the load well anywhere on the farm. In fact, I prefer it to any other for most farm work, but it is better to use an ordinary wagon on the road, as the high wheels are better for long hauls. The same running gear may be used for both by getting both low and high wheels that will fit the same spindles.

The principal work in hauling on the farm is loading and unloading, and as a labor saver in this way I consider there is nothing to equal my low-wheeled wagon. If one uses a tractor instead of horses for heavy hauling, the problem of power is a small item, and the low-wheeled wagon is much better adapted to and more convenient for tractor hauling than high wheels.

### Low Wheels Save High Lifts

A wagon of this kind can be obtained either by buying low wheels and using them on the running gear of the other wagon, or by purchasing the low wagon complete. The latter way is perhaps better, as the axles and other parts are stronger to withstand the heavier loading for tractor power. The height of the wheels is an important consideration in this type of wagon, and on the claim that they pull heavier and have no particular advantage many farmers do not favor the extremely low wheels. Twenty-eight-inch front and thirty-two-inch rear wheels seem to be the most satisfactory for general farm use.

### Windlass Anyone Can Make



THIS windlass is excellent for hanging hogs while dressing them. Take two 8x8-inch timbers ten feet long and set them in the ground about 8 feet apart, leaving 8

feet above ground. Next take a round pole 10 feet long and 6 inches in diameter, and place it across the top of the two timbers, holding it in place by uprights nailed to each side of each timber at the top.

Take four stout sticks 2 inches thick and 4 feet long, and fasten them in auger holes bored about 2 inches from end of pole. Brace them with baling wire extending entirely around the reel, as illustrated. A rope or wire tied from one of the sticks and to the nearest upright prevents reel from running backward when a load is on the windlass.

### Cutting Ice with Tractor

GASOLINE finds new fields of use every day, and one of the latest is that of cutting ice on the big lakes where the ice industry is an important one. A new invention is that of a powerful motor-driven tractor that creeps along the ice, sawing out cakes at the rate of about 30,000 a day. It does the work of sixteen men and eight horses, and can be driven with equal success in either direction. Thus it is a time saver in that it does not have to be turned around when the length of the "cut" is reached.

The motor of this new machine drives the gears and chains by which the tractor moves along, and it also is connected directly with the saw that does the cutting.



A tractor furnishes plenty of power to send a circular saw through hard knots without loss of speed

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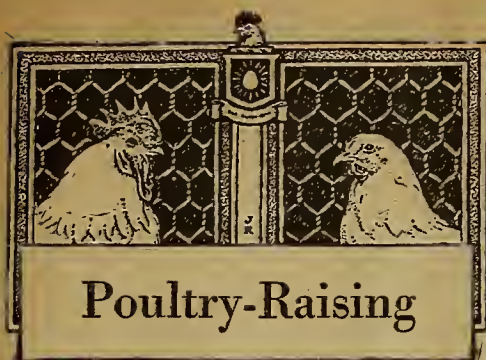
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the grains and sells for less money than some of them. Let us send you our circulars on dairy feeds. You will find that your profits will be greater, your herds will be in better shape and your feed cost will be greatly decreased. A postcard will tell you how to do this — or see your dealer. **ATLAS DISTILLERS GRAINS** contain 27 per cent. to 30 per cent. protein and 8 to 10 per cent. fat.

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## Poultry-Raising

### Profitable Side-Line Flock

By Frank Kelleher

FROM 500 White Leghorn fowls I realize enough on egg profits (when feed costs are normal) to net me fair daily working wages throughout the year, in addition to managing my 300-acre grain and live-stock farm in Allamakee County, Iowa. The work of caring for the birds I find a pleasant relaxation from my other farm duties. Much of the work about the poultry houses is done at odd times, when field operations are not pressing. This poultry line has been a part of the regular farm income for five years.

All eggs are disposed of to a select Chicago trade, at from four to seven cents over the local market price per dozen. The business is all transacted by mail, and shipments of eggs are made by express.

Through the winter months the fowls are kept in two large laying houses—250 in each. These houses are 50x16 feet, with shed roof, 8 feet high in front and 5½ feet in the rear. The walls are made of hollow clay blocks, size 12x8x5 inches, laid edgewise on a concrete foundation. The surface of the walls is plastered with a cement and sand mixture, and is perfectly smooth. The roof is of tarred preparation, and the floor of clay. As the houses face the south the walls on this side have three windows, 3x9 feet in extent, protected by muslin frames, which are raised during the day and closed at night. On the inside, two partition walls, also of clay blocks, jut out from the back wall a distance of about 10 feet, dividing the length into three equal parts. These serve to prevent drafts on the fowls. Between these walls are arranged the sanitary, lice-proof roost poles, with concrete dropping floor beneath them, about 30 inches from the ground. Dust bins are in such position that the sun shines on them every day when there is sunshine. Clean straw to a depth of five inches is kept on the floor, and is renewed before it becomes damp and foul. Grain fed in this straw keeps the hens busy scratching and digging, and thus well exercised.

### Clay-Block House Satisfactory

One house is filled with pullets, and the other with yearling hens. The eggs for hatching are taken from the yearling, or breeding, house. The yearling hens are fattened and sold each year just before the pullet crop from the season's hatch is ready to be placed in the house. This method insures a young and vigorous laying stock.

The cost of constructing the laying houses was about \$160 each, complete. The clay blocks used, secured direct from the manufacturers in carload lots, cost less than five cents apiece.

About 800 chicks are hatched and reared in portable houses each season. After deducting losses and disposing of the males, there still remain over 300 pullets from which to renew the flock of layers. The surplus young stock is fattened by the milk-feeding method, and are sold by contract in weekly consignments.

Nothing in particular is done to prevent disease in the flock except to keep quarters clean, dry, and in a sanitary condition and the diet varied. Any ailing fowls are removed and secluded. The trouble and loss from disease is surprisingly small under the present methods of care and management.

The winter feed is a mixture of barley and oats scattered in the litter every morning. At noon a bulky mash feed is prepared by scalding a bushel of alfalfa meal into which is mixed a bushel of equal parts of bran, middlings, ground oats, and ground corn, with an addition of 10 per cent of blood meal. Enough boiling water is added to make the mash crumbly, but not sloppy. At night the fowls are fed all the corn they will clean up. Some fresh ground bone and chopped alfalfa are also fed daily. Besides the alfalfa, small amounts of vegetables, such as beets and cabbage, are fed, as well as some sprouted oats. Plenty of clean warm water is always supplied, along with shell and grit. Charcoal is fed about three times a week. During the summer months the hens are allowed the range of the farmyards and grass meadow, thus cutting down feed cost.

### Tobogganing Frozen Poultry

NOT for many moons will the quantity of poultry in storage be so heavy as was the case October 1st last, when the frozen supply was one-half pound for each member of our population—in round numbers, fifty million pounds of broilers, roasters, etc.

Under normal conditions the poultry in storage increases quite heavily—even up to 30 per cent or more in September. But during September, 1917, the supply of stored poultry was reduced 19 per cent, for the big drive in disposing of surplus stock was then already over. From now on the stored poultry will melt away like a June frost and, furthermore, there will be practically no stock of live poultry with which to supplement the shortage that consumers must face until another poultry crop is grown.

Many a former owner of valuable breeding poultry stock will most fervently wish in the coming months that some far-seeing friend had heavily trod on his toes when he was making hurried efforts to close out poultry stock that had required years to get together and build up to a high state of quality and reproductive excellence.

### Weasels Kill Chicks

OUT of a flock of 250 Barred Rock chicks in a colony house we had 117 killed by a weasel in one night. The chicks were dragged through a small hole in the floor and stacked up in piles beneath the house. We raised the colony houses on drainage tile a foot in diameter, so that the houses were two feet from the ground. The smooth tile prevented weasels from climbing up to the floor, and we have never lost a chick from weasels since that night.

The weasel will occasionally attack old hens. A neighbor found a weasel holding a half-grown Barred Rock pullet in her orchard, and as the animal showed no sign of fear she stepped on it and killed it. We have found that the only way of fighting weasels is to clean up their breeding places. The pests are very difficult to catch in traps. They breed in stone piles, scrap-lumber piles, and old stumps, and will raise as many as five young in a litter. Removing the breeding places will assist in driving them from a farm. Our Airedale dog is constantly searching the farm for rodents, and since he has grown large enough to hunt I do not believe any weasels have been born on the place.

### Profitable Windbreak

By T. S. Hurd

A WINDBREAK is desirable wherever an orchard is exposed to strong winds. Pine trees and Chinese arbor vitae planted years ago now constitute the best windbreaks. Objections are often made to the red cedar on account of the fungus, one stage of which spreads to apple trees. The damage from this source is probably overestimated.

The real objections to evergreens is that they are slow in growth, averaging 1½ feet a year. They afford, however, the maximum resistance to wind all the time. The roots of evergreens do not spread widely, and the orchard trees can be planted within a short distance of the windbreak.

If a person does not like pines he should plant hard wood trees, such as walnuts, pecans, or oaks. In thirty-five to forty years these trees will make a good windbreak. It is really a case of planting for your grandchildren. With hard woods the lumber investment always pays.

Cottonwoods, hedge, and mulberry trees are much in favor. They are rapid growers, and consequently the orchard trees must be planted several rods away. The rate of growth more than compensates the man who must protect his orchard in a short time for their greed in the use of the soil. The growth of cottonwoods will pay rent.

Windbreaks protect trees from both summer and winter evaporation, and from cold. Snow lies more evenly in the protected orchard and melts less rapidly. The blossoms are protected from severe winds and the number of wind-falls is lessened. Trees will grow more erect and in better form.

Windbreaks are, however, not without their drawbacks. Sometimes frost is more severe next to the windbreak, where the air does not circulate so freely. Injuries from insects and fungous diseases are more apt to occur near a windbreak, but these can be averted by spraying.

### Pasturing Wheat

By M. N. Harrison

PEOPLE are warned against pasturing wheat that has made little growth, or any wheat on ground that is wet and soft. If a person is short of feed and the wheat has made a good growth, it may be pastured.

Under no circumstances should late-sown wheat be pastured, and wheat should never be pastured too close or too late in the spring. Take all stock off the fields when spring opens up. Conditions should suggest just how much pasturing should be done.

Contrary to the opinion of some persons, pasturing does not kill the Hessian fly. Other methods must be used in the eradication of this pest.

### Grasses in Crop Rotation

By F. W. Hooper

GRASSES have an important place in crop rotation. In choosing the variety of tame grass to be sown, attention should be paid to the moisture requirements of the grass and its adaptation to the particular soil in which it is to be planted.

Timothy, Kentucky blue grass, meadow fescue, redbtop, brome, orchard, Bermuda, and tall oat grass have a general adaptation to farm crops. Usually these grasses should be sown in combination with one or more of the legumes, such as alfalfa or clover, as this improves the condition of the soil and adds a great deal of nitrogen.

Combinations of grass that have been grown successfully in some States are 8 pounds of timothy and 2 pounds of mammoth or alsike clover; 12 pounds of orchard grass and 8 pounds of red clover; 10 pounds of brome grass and 8 pounds of red clover; 5 pounds of brome grass, 5 pounds of orchard grass, and 6 pounds of red clover to the acre.

A desirable mixture for some localities is 6 pounds of redbtop, 6 pounds of meadow fescue, and 6 pounds of orchard grass. For others a good combination is 10 pounds of brome grass and 10 pounds of alfalfa. None of the tame grasses have succeeded in some States, except when planted in very rich creek bottoms.

The usual amounts of seed per acre when sown alone are 12 pounds of timothy, 24 pounds of Kentucky blue grass, 20 pounds of orchard grass, 12 pounds to 15 pounds of meadow fescue, 14 pounds of redbtop, 20 pounds of brome grass, 25 pounds of tall oat grass, 10 pounds of red clover, 10 pounds of mammoth clover, 6 pounds of alsike, 12 to 15 pounds of alfalfa. When two or more varieties are sown together it is more satisfactory to sow at a slightly increased rate.

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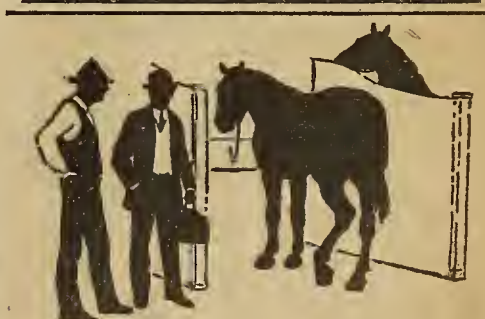
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## Live Stock

### Cattle on High-Priced Land

By Thomas J. Delohery

**M**ANY people say they cannot feed live stock on \$200 land and make money. Perhaps they cannot, but I know of many feeders who are doing it and, what is more, are making money. Take the case of Ben F. Myers of Dexter, Iowa. Mr. Myers owns land which is worth \$250 an acre, and he pastures 140 acres of such land. Furthermore, he buys all of the corn he feeds, all his cattle and his hogs—his horses too, for that matter.

But Mr. Myers has a system of feeding which is contrary to those used by various feeders. The best argument for his method, even though it be contrary, is that it is making money for him.

Recently Mr. Myers marketed 35 steers, averaging 1,517 pounds, which sold at \$16.75 a hundredweight, the highest price on record at this writing. Had the cattle not had brands they would have brought \$17, for they were the class of the stuff marketed that day. They were in the best of condition, and had quality second to none. The brand hurt the hides, and the hide is a valuable by-product these days.

These cattle were bought last October, averaging 1,040 pounds and costing \$7.85. They were run on pasture and stalk fields after arriving at the Myers establishment. In January they were taken into the feed lot and fed silage and clover hay and straw, mixed. The silage ration was increased gradually until, toward the close of the winter, they were getting about 55 pounds per head per day. The silage ran out on March 26th, and the cattle were put on grass, with a peck of corn in addition to clover hay. On May 15th the ration was changed to 25 pounds of corn and cob meal and two pounds of cottonseed meal. This was later increased to five pounds per head per day.

The cattle were kept on grass until marketed. These cattle, in all, ate about 75 bushels of corn, figuring that the silage they ate contained about 15 bushels of corn. This corn cost him but 80 cents, he having bought it in December. At the time the writer visited his farm in April he had \$8,000 worth of corn in his cribs waiting to be fed. These cattle will net him around \$60 a head, clear. He would have made money on this stuff had he fed it \$2 corn.

It is generally the trouble where high-priced land cannot be used as a live-stock farm that the class of stuff fed is not as good as the best feeders use. This stuff costs more, and requires more nerve to feed, but nine times out of ten the steers pay out.

### Raising Colts

By E. P. Roberts

**L**AST season we raised four spring colts out of a possible seven mares that were supposed to foal. However, one mare proved not to be in foal. Six of our mares were safe in foal, we were sure, by January 1, 1916. But on New Year's day one of the six aborted her foal, and one of the other five carried hers up to within two weeks of full time

and started to foal in the pasture about two hours before I discovered what was the trouble.

I am thoroughly convinced that the man who is farming a large acreage cannot afford to depend much on raising colts for profit. Mares heavy with foal are just half as efficient as they would be otherwise. Then they must be laid off just when it is not always handy to do without them.

The only thing that I can see that would justify any man in trying to raise horses for profit would be for him to get the best individuals for that purpose that can be found, although there are few grade mares at the present time producing the kind of horses that sell above the \$225 mark; and even then he could not hope to get good results if he worked the mares too hard, considering their condition. If anything is worth doing, it surely is worth doing right, and it should pay well to begin with the best.

### Corn and Hogs, 13 to 1

**J**OSEPH P. COTTON, chief of the Food Administration's meat division, on November 3d issued the following statement relative to the prices of hogs:

"The main purpose of the Food Administration as to hogs are four: To see that the producer at all times can count on a fair price for his hogs so that it will be profitable to him; to see that the farmer increases the number of hogs bred; to limit the profit of the packer and the middleman, and to eliminate speculation. All these purposes are necessary because we must have more hogs, so that the ultimate consumer shall at all times get an adequate supply of hogs at the lowest feasible price.

"We shall establish rigid control of the packer. Fair prices to the farmer for his hogs, we believe, will be brought about by the full control which the Food Administration has over the buying of the Allies, our army and navy, the Red Cross, the Belgian relief, and the neutrals, which together constitute a considerable factor in the market. The first step is to stop the sudden break in prices paid for hogs at the central markets.

"Those prices must become stable so that the farmer knows where he stands, and will feel justified in increasing hogs for next winter. The prices so far as we can affect them will not go below a minimum of about \$15.50 per hundredweight for the average of the packers' droves on the Chicago market, until further notice.

"We have had, and shall have, the advice of a board composed of practical hog growers and experts. That board advises that the best yardstick to measure the cost of production of the hog is the cost of corn. That board further advises that the ratio of corn price to hog price on the average over a series of years has been about twelve to one, or a little less. In the past, when the ratio has gone lower than twelve to one, the stock of hogs in the country has decreased. When it was higher than twelve, the hogs have increased. That board has given its judgment that to bring the stock of hogs back to normal under present conditions the ratio should be about thirteen. Therefore, as to the hogs farrowed next spring, we will try to stabilize the prices so that the farmer can count on getting for each 100 pounds of hogs ready for market thirteen times the average cost per bushel of the corn that has been fed into the hogs.

"Let there be no misunderstanding of this statement. It is not a guarantee backed by money. It is not a promise by the packers. It is a statement of the intention and policy of the Food Administration, which means to do justice to the farmer."

### Fine-Flavored Pork

By J. L. Justice

**A**THING to be considered in feeding soybeans to hogs is the quality of the meat it produces. In this connection I refer to the threshed grain as a supplement to corn. We had a bunch of shotes which were farrowed late in the spring, turned into a field of soybean stubble to clean up the beans that had been shattered when a part of the vines were removed and stored for roughage. They also had access to another small field from which corn and soybeans were taken for silage, and they picked up quite a lot of the mature beans in the course of a month. Later they were fed heavily on corn, tankage, and soybeans in preparation for market, each 150-pound hog receiving about ten pounds of soybeans a month.

From this bunch we killed and obtained our year's supply of pork; but it was a new kind of pork, having a quality not found in meat of hogs fed other supplements. The soybeans imparted to it a fresh, sweet, nutty flavor that made it delicious. When the meat was sugar-cured it retained that rich nutty flavor to a marked degree. We also put some of it down in a pure salt brine, and while this meat is a little stiffer and harder than the sugar-cured, the characteristic flavor imparted by the soybeans was not destroyed, though it is not comparable to that of the sugar-cured.

The meat has a slightly darker color than that from tankage-fed hogs, but the texture is much the same; in fact, the only distinguishable difference is in the improved flavor.

Just what effect a complete ration of soybeans and corn would have on the resulting meat I do not know, but it would undoubtedly make a prime class of meat. Such a class of meat should find a ready market at a fancy price if consumers are taught to appreciate its improved quality.

Quite a number of farmers were feeding soybeans to their hogs last year, but the increasing interest in their usefulness and adaptability this year has caused such a demand for them at high prices that they are now feeding them sparingly, or not at all. As packing houses do not pay a premium on hogs fed soybeans, it is more economical to sell the beans and buy tankage or linseed-oil meal. Present prices range from \$3 to \$4.50 a bushel of 60 pounds, but in view of increased production and probable lower prices this year soybeans may be used in combination with tankage or linseed-oil meal to advantage.

### Ship Horses Safely

**H**ORSES being transported by rail are likely to be injured seriously if proper precautions are not taken. The first thing to do in preparing the car is to make sure that its sides are free from protruding nails, splinters, and sharp corners, which might cause injury to the horse. If the journey is long, sacks of straw may be hung around the wall to act as bumpers.

The horse should not be tied, as it cannot brace itself as well as when it is free to move about. A sudden jerk of the car may throw the horse violently against the sides of the car. When it is tied, there is also danger in injuring the head and neck by a sudden movement of the train.

One method of preparing the car is to build a stall in one end. A partition of heavy lumber should be built across the car two thirds of the distance from the end to the door. Cleats may be nailed upright on the sides of the car and the crosspieces nailed to these. It is essential that the partition be well braced outside the stall with heavy lumber, so that when the horse is thrown against it the weight will fall upon the brace and not upon the partition solely.

This method was employed recently in bringing a valuable pure-bred stallion for a distance of more than a thousand miles. This horse did not receive the slightest injury.

In such a stall the bedding should be heavy, and stirred up thoroughly two or three times each day. The motion of the car has a tendency to work the bedding away from the center of the stall. Each evening this bedding should be rearranged.

If but one horse is to be shipped, the entire car may be bedded and the horse given the freedom of the car. If feed and water are kept in the car with the horse, they should be securely fastened to prevent spilling. One of the doors may be nailed open and the opening boarded up with heavy lumber to afford ventilation.

The main object in preparing the car for the shipment of the horse should be to protect him from the dangers of injury which may arise from sudden motions of the car. A violent fall to the floor or against the walls of the car may injure the horse permanently.

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## Live Stock

### Cattle on High-Priced Land

By Thomas J. Delohery

**M**ANY people say they cannot feed live stock on \$200 land and make money. Perhaps they cannot, but I know of many feeders who are doing it and, what is more, are making money. Take the case of Ben F. Myers of Dexter, Iowa. Mr. Myers owns land which is worth \$250 an acre, and he pastures 140 acres of such land. Furthermore, he buys all of the corn he feeds, all his cattle and his hogs—his horses too, for that matter.

But Mr. Myers has a system of feeding which is contrary to those used by various feeders. The best argument for his method, even though it be contrary, is that it is making money for him.

Recently Mr. Myers marketed 35 steers, averaging 1,517 pounds, which sold at \$16.75 a hundredweight, the highest price on record at this writing. Had the cattle not had brands they would have brought \$17, for they were the class of the stuff marketed that day. They were in the best of condition, and had quality second to none. The brand hurt the hides, and the hide is a valuable by-product these days.

These cattle were bought last October, averaging 1,040 pounds and costing \$7.85. They were run on pasture and stalk fields after arriving at the Myers establishment. In January they were taken into the feed lot and fed silage and clover hay and straw, mixed. The silage ration was increased gradually until, toward the close of the winter, they were getting about 55 pounds per head per day. The silage ran out on March 26th, and the cattle were put on grass, with a peck of corn in addition to clover hay. On May 15th the ration was changed to 25 pounds of corn and cob meal and two pounds of cottonseed meal. This was later increased to five pounds per head per day.

The cattle were kept on grass until marketed. These cattle, in all, ate about 75 bushels of corn, figuring that the silage they ate contained about 15 bushels of corn. This corn cost him but 80 cents, he having bought it in December. At the time the writer visited his farm in April he had \$8,000 worth of corn in his cribs waiting to be fed. These cattle will net him around \$60 a head, clear. He would have made money on this stuff had he fed it \$2 corn.

It is generally the trouble where high-priced land cannot be used as a live-stock farm that the class of stuff fed is not as good as the best feeders use. This stuff costs more, and requires more nerve to feed, but nine times out of ten the steers pay out.

### Raising Colts

By E. P. Roberts

**L**AST season we raised four spring colts out of a possible seven mares that were supposed to foal. However, one mare proved not to be in foal. Six of our mares were safe in foal, we were sure, by January 1, 1916. But on New Year's day one of the six aborted her foal, and one of the other five carried hers up to within two weeks of full time

and started to foal in the pasture about two hours before I discovered what was the trouble.

I am thoroughly convinced that the man who is farming a large acreage cannot afford to depend much on raising colts for profit. Mares heavy with foal are just half as efficient as they would be otherwise. Then they must be laid off just when it is not always handy to do without them.

The only thing that I can see that would justify any man in trying to raise horses for profit would be for him to get the best individuals for that purpose that can be found, although there are few grade mares at the present time producing the kind of horses that sell above the \$225 mark; and even then he could not hope to get good results if he worked the mares too hard, considering their condition. If anything is worth doing, it surely is worth doing right, and it should pay well to begin with the best.

### Corn and Hogs, 13 to 1

**J**OSEPH P. COTTON, chief of the Food Administration's meat division, on November 3d issued the following statement relative to the prices of hogs:

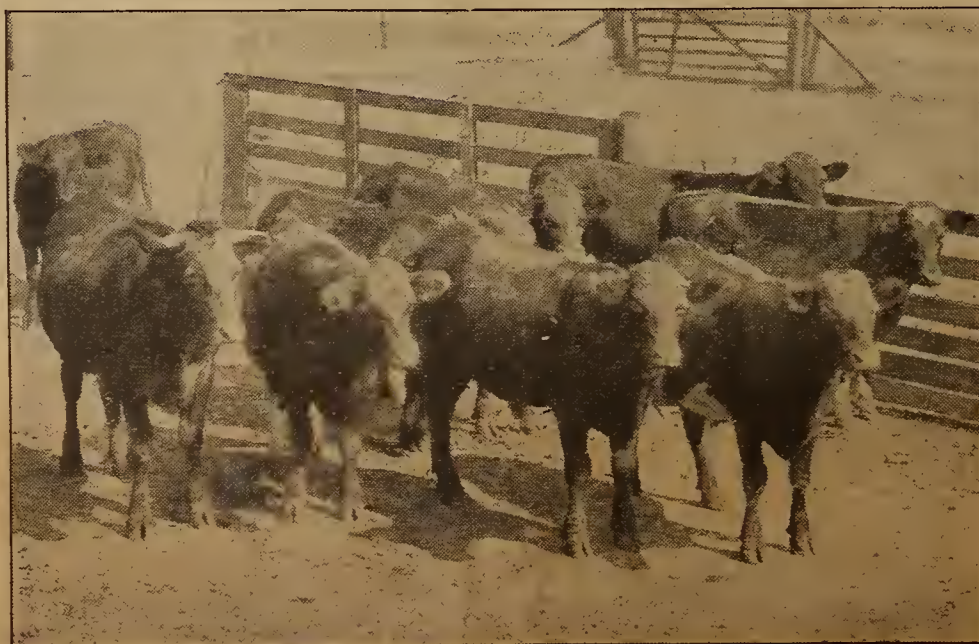
"The main purpose of the Food Administration as to hogs are four: To see that the producer at all times can count on a fair price for his hogs so that it will be profitable to him; to see that the farmer increases the number of hogs bred; to limit the profit of the packer and the middleman, and to eliminate speculation. All these purposes are necessary because we must have more hogs, so that the ultimate consumer shall at all times get an adequate supply of hogs at the lowest feasible price.

"We shall establish rigid control of the packer. Fair prices to the farmer for his hogs, we believe, will be brought about by the full control which the Food Administration has over the buying of the Allies, our army and navy, the Red Cross, the Belgian relief, and the neutrals, which together constitute a considerable factor in the market. The first step is to stop the sudden break in prices paid for hogs at the central markets.

"Those prices must become stable so that the farmer knows where he stands, and will feel justified in increasing hogs for next winter. The prices so far as we can affect them will not go below a minimum of about \$15.50 per hundredweight for the average of the packers' droves on the Chicago market, until further notice.

"We have had, and shall have, the advice of a board composed of practical hog growers and experts. That board advises that the best yardstick to measure the cost of production of the hog is the cost of corn. That board further advises that the ratio of corn price to hog price on the average over a series of years has been about twelve to one, or a little less. In the past, when the ratio has gone lower than twelve to one, the stock of hogs in the country has decreased. When it was higher than twelve, the hogs have increased. That board has given its judgment that to bring the stock of hogs back to normal under present conditions the ratio should be about thirteen. Therefore, as to the hogs farrowed next spring, we will try to stabilize the prices so that the farmer can count on getting for each 100 pounds of hogs ready for market thirteen times the average cost per bushel of the corn that has been fed into the hogs.

"Let there be no misunderstanding of this statement. It is not a guarantee backed by money. It is not a promise by the packers. It is a statement of the intention and policy of the Food Administration, which means to do justice to the farmer."



High-grade live stock makes a good return on high-priced land when inferior animals fail miserably to show a profit



# Good-Health Talks

Suggested by Questions from Our Readers

By DAVID E. SPAHR, M. D.



NOT long ago a little boy came to my office, and when I was examining him I found that on a string around his throat was a nutmeg. I asked his mother why he wore this, and she said it kept him from taking cold. This is like trusting in turpentine, asafetida, camphor, and other strong-smelling substances to ward off diphtheria, measles, scarlet fever, and other infectious diseases. These practices are mere superstition and do not in any way keep one from contracting disease.

The best way to insure your children and yourself against contagion is to build up good constitutions by wholesome living. Eat enough wholesome food so that you will not be undernourished, but do not overeat, and follow good habits of sleep and exercise. Then see that the rules of health in your community, and especially in your schools, are rigorously enforced, so that persons who have been exposed to a disease will not be able to spread the contagion.

The reason colds are so easy to catch and so hard to get rid of in winter is that people herd together in hot, close rooms, full of the germs of colds and catarrh; and, because they are not hardened to the winter, they fall an easy victim.

Dress sensibly, but remember that heavy woollens are not necessary except in places where the weather is unusually severe and the exposure great. Your body is a furnace supplying its own heat. Your clothing simply keeps that heat in, and the layer of air which the clothing holds and surrounds the body with is what keeps you warm. Porous-knitted underwear of moderate weight cotton with meshes or net weave will hold more air than an impenetrable woolen.

You won't need to be afraid of winter if you get on sufficiently familiar terms with it.

### Teething Baby

At the present time our baby is very cross, as she is teething. Would it be advisable to have her gums lanced?  
F. D. R., South Carolina.

IT IS seldom, indeed, that it is necessary to lance the gums of a teething child, although in certain cases it might be deemed advisable. Keep the bowels well open.

### Headaches

I have very severe attacks of headache, and would like to know what to do for them. I have a good appetite and seem to be all right otherwise.  
E. S. C., Vermont.

WHAT causes your headache—indigestion, overeating, or eye-strain? As you are otherwise in good health, it is probably migraine.

You should be careful of your diet; take a good liver pill. Sleep with light covering and with an abundance of fresh air in the bedroom.

### Neuralgia in Face

I am greatly troubled with neuralgia in my face. Can you tell me how to relieve the pain?  
D. J. K., Georgia.

IT WOULD be absolutely necessary to know the cause of the neuralgia—whether disease of the ear, teeth, nose, or whatever the cause might be, and then treat and cure that. It is evidently due to disease or injury some place.

Have an X-ray taken of your teeth, and notice if there is any pressure or malformation, or a tooth pressing on a nerve.

Have all wax removed from the ears, and be examined for catarrh of the middle ear.

There are medicines which would probably relieve you for the time being, but the cause should be ascertained and removed.

You might try a five-grain tablet of strontium salicylate every two or three hours.

### Under Weight

I am sixteen years old and weigh only 115 pounds. I am 6 feet 7 inches tall. How can I increase my weight 20 or 30 pounds?  
R. L., Illinois.

JUST have patience—you are not yet fully developed. Probably by the time you are twenty you will be rounded out and quite portly. As you stop growing perpendicularly you will develop and spread out horizontally.

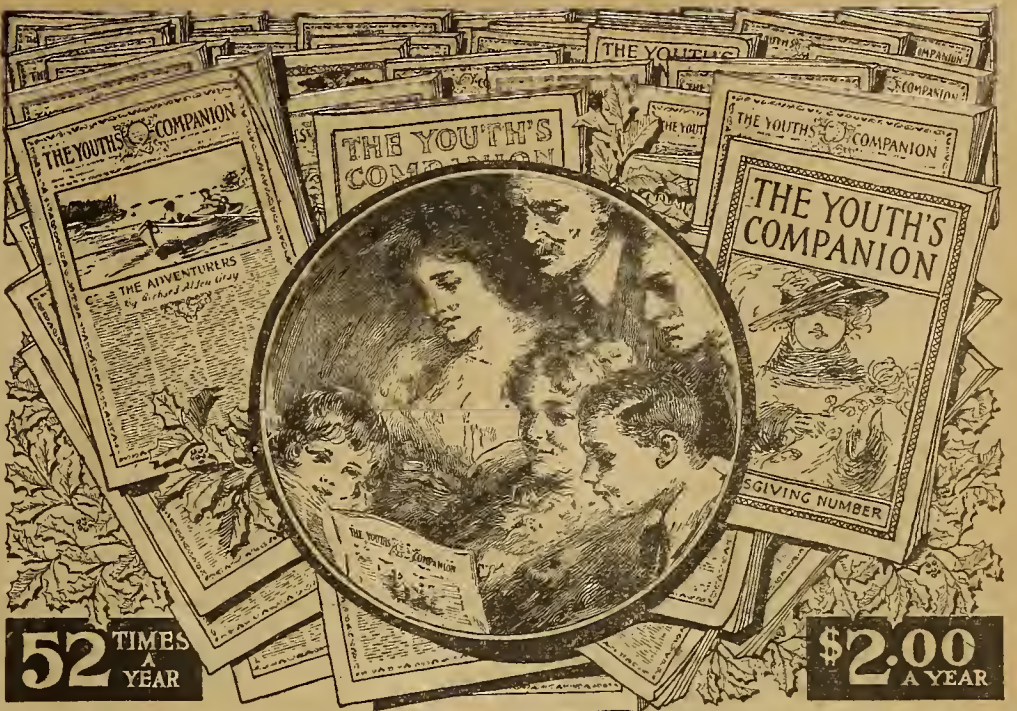
Drink six glasses of fresh milk daily.

### Whooping Cough

My son, age eight, has what I suppose is the whooping cough. At first he seemed only to have an ordinary cold in his head, then his cough became hard, dry, and rapid. I allow him only a light, nourishing diet, and he plays out of doors only on days when the weather is mild and warm. Will the cough stay with him until spring? Would a change of climate be advisable?  
Mrs. T. R. W., Louisiana.

THE cough need not necessarily stay with him all winter. Dress him warmly and let him play outside in the air as much as possible, as the air is very beneficial. If he is a strong, vigorous boy he should be well in from six to eight weeks.

I hardly think that a change of climate is necessary.



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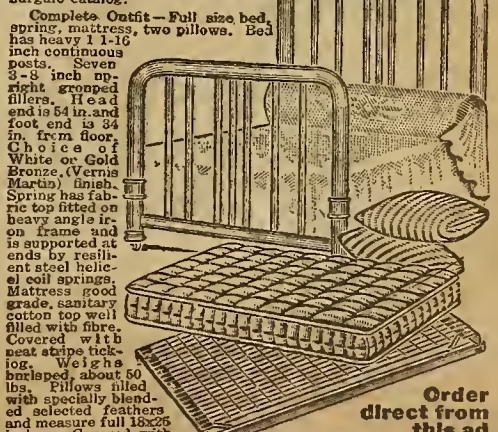
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*Adventure naturally follows some men and women:  
No matter where they go, things wake up and happen*

# Runaway Julietta

## She Uncovers a Long-Concealed Secret and an Old Wrong

By ARTHUR HENRY GOODEN

PART V

**J**ULIETTA had no difficulty in finding the little cabin at the end of Burt's warehouse, near the railroad tracks. She knocked at the door a trifle timidly; it was opened by a woman who stood gazing inquiringly at her.

"Maggie!" Julietta sent out her hands with impetuous sympathy.

The woman clutched at the doorknob.

"Lizzie Dare?" she said faintly.

Julietta's arms closed around her.

Three minutes later they were sitting inside the cabin. Here a surprise met Julietta, for she had come prepared to meet squalor; instead, however, she found a scrupulous neatness.

"I was in the washtub when you knocked; I thought it was the boy with the hotel laundry," said Maggie apologetically. Then, as she caught Julietta's gaze wandering around the room, her voice and eyes became challenging. "You've heard about—about me, of course. I know what you're looking for—"

"Yes," Julietta nodded, her eyes misty.

"It wasn't my fault, Lizzie—really it wasn't my fault!" Maggie's shoulders shook convulsively.

Julietta stroked the tear-wet cheek.

"There, there, Maggie dear!" she comforted. "It's going to come out all right yet for you and little baby—I know it."

Maggie's body suddenly relaxed.

"Oh, Lizzie," she was crying now, but it was a quiet weeping, "I used to be so mean to you—I know I was. But I didn't know any better then, Lizzie. I'm willing to work, I'm willing to fight and struggle along for baby; but, oh, I'm so tired, and—and people everywhere pointing fingers at me—"

Julietta gave her a great reassuring hug.

"You say good-by to your washtub this very day!" she announced firmly. "We'll soon get rid of that tired feeling. I've got to go now, dear; I'm on an errand, but you'll surely see me to-morrow."

Maggie dried her eyes on her apron with a wan smile.

"You've a way with you, Lizzie—you make folks feel that you really care for them. I didn't mean to take up all your time talking about myself."

As Julietta had come, so she departed—thoughtful, preoccupied, unseeing; so it was not until she heard a voice of greeting that she saw the speaker in the warehouse doorway.

"Good morning!"

She looked up and saw Andy Burt advancing to meet her with a broad smile. She returned the smile, not because she liked Andy Burt, for she vaguely disliked him, but because the last half-hour had drawn her close to the humanness in life, and because there was a certain justness in her nature which asserted itself.

"Good morning to you, Mr. Burt!"

"Great drying weather!" said Burt, removing his panama and fanning himself. "Can't get too hot to suit me right now—the grapes I've got out on the trays! Been over to see your cousin, eh?"

"Yes," said Julietta.

"Sure is too bad about her. Can't I give you a lift in my rig? I'm goin' right up the street, and it's mighty hot for walking, Miss Dare!"

"I'm only going to Mr. Fitzhorn's shop," she thanked him.

"Well, better jump in and ride," he urged, untying his team of blacks.

Julietta hesitated, then decided not to be ungracious, and stepped into the buggy. Burt drove off slowly.

**N**EAR the post-office they were hailed by a man in a dusty buckboard drawn by a pair of thin mules. Burt slowed down and drew in his team, while the man, evidently a rancher, leaped to the ground and strode up. He was elderly, small, and wore a bristling goatee; his face was red, his eyes angry.

"Am I goin' to have that water?" he demanded abruptly.

"Hello, Dean!" was Burt's suave response. "Meet Miss Dare—Jim Wurrell's niece, you know. Used to be a neighbor of yours when she was a little girl."

Julietta leaned forward, hand extended.

"Why, it is Mr. Dean! How do you do?"

The rancher removed his hat and shook hands. Then he faced Burt anew.

"Did you get my question straight? Am I goin' to have that water, or ain't I?"

"You'd better see me some other time, Dean; right now I'm kind of rushed—"

Dean grasped the dashboard, thrusting out his goatee.

"You've said that all summer, but, by Jupiter, I want to know now! Am I or ain't I goin' to get that water?"

Attracted by the scene, a little group of sunburned men, ranchers for the most part, had turned and were watching, apparently keenly interested in Burt's answer.

"Why," said the banker nervously, "if you must know, Dean, I can just about use all the water there is, what with the ditch running low—"

For a moment the rancher's eyes blazed, then his hand dropped and he turned away, dejected and listless. Burt drove on. As they passed the little group before the post-office, Julietta was keenly conscious of an unkindly scrutiny. With a little shock she saw the tall figure of Clay Thorpe emerge from the doorway, a flash of amazement crossing his face at sight of her. She nodded smilingly; he lifted his hat, then gravely turned his back.

Julietta's cheeks were still burning with resentment, wonder, and disturbed hurt when the smithy was reached and she was able to leave the buggy.

she nodded. The smith eyed her keenly. "Huh! Don't you be upset about Maggie. She's been treated rough, I know, but humans is like horses—it takes considerable fire and poundin' to shape 'em true, and I guess the Great Smith knows His business. The trouble with us folks is we're afraid of the fire, not knowin' what'll come for us; and we don't know that love's back of every stroke of His hammer—well, you take my word for it, Maggie's comin' out of her fire, clean and fine and a lot better for it, she bein' some flighty before, but good clean metal underneath."

Julietta smiled up into his earnest face, her eyes misty.

"I know—I know," she said simply. "I feel a good deal better, thank you."

Slowly she rode home through the shimmering heat, through the clouds of thick yellow dust that trailed in the sultry air. Dean's face would not leave her mind's eye, and the face of Thorpe, and those other faces. It was wretchedly unjust, of course, that Burt would not sell them water.

Suddenly Julietta lifted her eyes to the purple hills. For a moment she looked startled, almost frightened, then a glow of color leaped into her cheeks, and from her lips broke a single quick laugh as she clapped in her heels and sent the bay mare bounding ahead in indignant surprise.

"Why, of course!" she said gayly. "Of course! And this time it's a real idea!"

**S**HE found Mrs. Wurrell sitting on the veranda. The older woman opened on her pettishly.

"Well, you did get back at last! Old Fitzhorn's gettin' slower with his work, eh?"

"I stopped to see Maggie," said Julietta frankly.

"Keep her name off'n this place!" said the old woman furiously. "I don't want sight nor sound of her. You'd better be gettin' that rod back to Jim."

"Very well, I'll take it to him," replied Julietta.

Mrs. Wurrell excitedly ordered her to stay where she was, but Julietta laughingly disregarded the words and skipped down the steps. She passed on around the house to the barn, and there encountered the man Jake, who had been on the place since her first memory of it.

"Here's your machine part, Jake," she said, holding out the rod. He made no motion to take it, but regarded her with a queer intentness.

"No use givin' it to me," he muttered sourly. "I've quit."

"Quit!" she repeated in surprise. "Why, I thought Uncle Jim was short-handed!"

"He's fired me," glowered Jake. "Fired me, Jake Robbins, as know more about ranchin' than he'll know in a hundred years! Made out he fired me for loafin' on the threshers, but he can't fool me, Jim Wurrell can't. I know too much to suit him that's what."

"About what?" demanded Julietta in surprise. He gazed at her with smoldering eyes, and she studied him curiously—the stoop of his lank figure, his prominent-boned face, his inscrutable gray eyes, his red-creased neck, his huge, toil-hardened hands. Something in his aspect saddened her.

"About you," he returned slowly. Now there came a strange glitter into his eyes, a gleam that spoke of something smoldering beneath the surface, of some deep-brooding wrong; it frightened the girl.

"I knew your father, Larry Dare," he went on with a sudden rush of words. "Heart as big as all out doors, he had. He was too trustin', though, else you know the truth about this here ranch."

Julietta's cheeks flooded with color.

"What about me, and this ranch? Tell me, Jake!"

"Why, this here ranch was Larry Dare's, and by rights it belongs to you, not to Jim Wurrell!"

"Mine?" Julietta shook her head. "No, Uncle Jim has always owned it as long as I can remember, Jake. You must be mistaken."

"I can remember longer'n you," said Jake grimly. "Larry Dare was thrown from a horse and killed when you was a baby. Your ma bein' dead too, the Wurrells moved on the ranch; but it ain't theirs, and the courthouse records can prove it."

"How do you know?" demanded Julietta coldly. He read the suspicion and unbelief in her eyes, and flared up in hot anger.

"I been waitin' for this day to come, I have! I ain't so long ago that I found out, neither. Soon as I laid eyes on you las' night I knew my day'd come to speak for Larry's girl. But [CONTINUED ON PAGE 19]

E-W



"Lizzie Dare!" she said faintly

"Well, ta-ta!" said Burt easily. "Guess we'll be right good friends, Miss Dare. Give my regards to the folks. I'll be out one o' these days for a friendly call. So long!"

Julietta walked slowly into the smithy. That expression on Clay's face rankled. It made her feel as if to be seen with Andy Burt was conviction of disloyalty. The brief visit with Maggie had left her exalted, compassionately tender; and now it was as if cold water had been dashed upon her soul. Even old Dean's face persisted with her—the hopeless, beaten look, and the faces of that little group of men.

"See Maggie?" Fitzhorn's voice roused her, and

### The Way It Began

**A**S a girl of ten Julietta ran away from her uncle's ranch, was adopted and educated by Paul Morrow, and went to work for the Truitt Shoe Company, of which he was president. When Morrow was ruined, Julietta began to teach a country school, and Morrow went "on the road" once more. She discovers an oilfield, strikes a "gusher," and, to please her guardian, gives up business. She learns that Morrow is in love with her and that her best friend and companion, Mrs. Drake, is in love with him. She suddenly becomes homesick and returns to her uncle's home.



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# Midwinter Household Problems

## Practical Suggestions to Aid Every Day in the Kitchen

### System in the House

By Monica Kelley

NATURALLY I am very unsystem-  
atic. I married rather young, and  
have never had any experience in the  
business world. Consequently, during  
the first years of my housekeeping I had  
no idea of the value of keeping records.  
I soon learned, however, that it was ab-  
solutely necessary to take care of re-  
ceipts, and it would save a vast deal of  
time and many mistakes to have some  
method of recording addresses.

Gradually I began to keep an address  
book, a file of catalogues, and a box es-  
pecially for receipts. This method had  
disadvantages, however, for the address  
book frequently disappeared just when  
it was needed, and I had to search  
through a whole box to find the particu-  
lar receipt I needed.

A little drawer filled with 3x5-inch  
cards solved my problem. This tiny  
filing cabinet is divided into various  
compartments: Addresses, filed alpha-  
betically; recipes, in subdivisions, such  
as bread, cake, meats, etc.; accounts,  
and entertainment, with suggestions for  
parties of all kinds, pasted or copied on  
the cards. For the receipts I have a  
vertical letter file with an alphabetical  
index. I simply slip the receipts into the  
proper place as each comes in, and oc-  
casionally go through the file to take out  
the old papers.

I like the system especially because I  
can destroy a card easily when it is no  
longer wanted, without spoiling the  
other records, and the cabinet is always  
neat and in its place.

### An Excellent Hard Soap

By M. D. Rudolph

POUR twelve quarts of soft boiling  
water on two and one-half pounds of  
unslaked lime. Dissolve five pounds of  
sal soda in twelve quarts of soft water.  
Then mix, and let it set for twenty-four  
hours. Pour off all the clear fluid, and  
be careful not to allow any of the sedi-  
ment to run off. Boil three and one-half  
pounds of clean grease and four ounces  
of rosin in the above lye. Boil until all  
the grease disappears. Pour into molds,  
and let stand one day to harden. Then  
cut in bars. Making soap provides a way  
for using excess fats which must be  
carefully conserved these days.

### Making Eggs Go Farther

By Emma Gary Wallace

EGGS are high, and likely to be higher,  
on account of the price of grain and  
labor. There are many ways of econo-  
mizing in the use of eggs and still hav-  
ing good food too.

When breeding fish, cutlets, or any  
similar food to be fried, try beating one  
egg and adding two tablespoonfuls of  
cold water to it in place of  
using two eggs, or set half  
of an egg aside and use  
one tablespoonful of water  
with the other half. Roll  
the oysters, or whatever is  
being prepared, in this and  
dip in flour or crumbs the  
same as usual.

In making pumpkin or  
squash pies, substitute a  
rounding tablespoonful of  
flour for one egg in each  
pie. Some people are suc-  
cessful in omitting the  
eggs altogether, using flour  
in this ratio instead. The  
success of the method de-  
pends upon careful season-  
ing and baking.

Instead of the usual  
boiled frosting made with  
egg-white, try confection-  
ers' sugar moistened with  
cream or, if milk is used,  
add a teaspoonful of melted  
butter, and season. A few  
chopped nut meats make  
this frosting very delicious.

In making egg omelet,  
try the following rule; it  
will take fewer eggs and  
not be nearly so likely to  
fall: Allow one egg to a  
person, break into a bowl,  
and beat until light. Add  
a tablespoonful of milk  
and a rolled saltine cracker  
for each egg. The crack-  
ers are the long, narrow  
ones. If you have the  
square ones on hand, use  
half a one to an egg. Roll  
crackers until very fine.  
Beat in with one-half tea-  
spoonful baking powder,  
salt and pepper to taste.

Have ready an omelet pan with a  
large-sized tablespoonful of hot fat in it.  
Pour in the omelet mixture and keep  
breaking the lower crust of the omelet  
with the tip of a knife. When browned  
on the under side and cooked clear  
through instead of being milky, fold the  
omelet together, and set in the oven to  
dry for five minutes. Turn on a hot  
platter, and serve at once.

### Tools for Mother

"MOTHER, where did you put that  
hammer? The boys say you had it  
last when you were putting up those  
hooks."

Of course I had put the hammer back  
in the tool shed, where it belonged, and  
it was found later on the ground where  
my husband had left it after he had fin-  
ished repairing the gate hinge. Similar  
incidents had happened many times, but  
this time his remorse took concrete form.  
A few days later he brought in an ob-  
long wooden box and presented it to me.  
It was full of tools, small enough for  
me to handle easily, but all of them  
strong and useful. Among them were a  
tack hammer, a claw hammer, a small  
saw, an awl, a screw driver, a gimlet,  
and a variety of nails, screws, and tacks.  
I have had a great deal of comfort out  
of them, and have never since been ac-  
cused of losing my husband's or the  
boys' tools.

### Durable Kitchen Sinks

By Jane Macpherson

BESIDES being at a convenient work-  
ing height, the kitchen sink should  
be durable, easy to clean, and made of a  
non-porous material. These sinks may  
be made of enameled iron, soapstone, or  
copper.

Cleaning powders that contain rough  
scouring agents are poor articles for  
cleaning sinks. Kerosene or other sub-  
stances that cut grease should be applied  
with a cloth and followed by a cleaning  
with soap and water. This method will  
be found particularly effective.

Enameled iron sinks are durable, and  
will last for years with proper care.  
They should not be cleaned with abrasive  
cleaning powders, as the enamel will  
wear off and cause a roughened condi-  
tion of the surface. A sharp blow will  
chip the enamel and cause rust to attack  
the exposed iron foundation. These  
sinks come in a variety of styles, mak-  
ing it possible to get them in almost any  
dimensions and with or without drain  
boards.

Soapstone sinks are less expensive,  
and are desirable where much dirty  
work is done. The soapstone, however,  
absorbs grease and wears away by con-  
stant scouring.

Copper sinks are attractive, easily  
cleaned, and sanitary. Because of cost  
these sinks are seldom found in kitchens

of the average home, but are satisfac-  
tory in butler's pantries for dishwashing  
purposes.

The average sink should be from 30 to  
36 inches in length, 20 inches wide, and  
8 inches deep. The drain boards should  
be at least 24 inches long, and if there is  
but one it should be on the left side.  
The drain board made of the same ma-  
terial as the sink is most desirable, but  
a hard wood, such as oak, ash, or hard  
maple, may be substituted.

It is best not to enclose the plumbing  
under the sink with a closet. This is apt  
to be dark and damp, hard to clean, and  
not at all a good place for utensils. If  
there is one place in my house that I  
want to be shining with cleanliness it is  
my sink.

### Dishes for Meatless Days

By Helen A. Lyman

**MACARONI SALMON**—Mash one-  
half can of salmon with a fork. To  
one-half cupful of rich milk add four  
tablespoonfuls of fine bread crumbs,  
heat hot, and add one tablespoonful of  
butter, two beaten eggs, a dash of pep-  
per, and a little salt. Mix well. Have  
cups well buttered, and lined with  
cooked macaroni, and fill them with the  
salmon. Set cups in a pan of hot water,  
and bake twenty minutes. Serve hot.

**FARINA WITH MILK**—Have one pint  
of boiling milk in a small enameled pan  
on the fire. Gradually add two gills of  
farina, sharply mixing with the milk  
while adding it. Add two tablespoonfuls  
of granulated sugar. Mix well, and let  
cook fifteen minutes, stirring once in a  
while. Stir in one raw egg yolk and  
serve with cold milk.

**VEGETABLE SAUSAGES**—Three carrots,  
four onions, two parsnips, one-half pint  
of split red lentils, two eggs, one-half  
pound of stale bread crumbs, sage, pars-  
ley, garlic, salt, and pepper. Boil the  
vegetables, and mash fine; cook the len-  
tils until soft, pound them well; add to  
the mashed vegetables, together with a  
little boiled sage, chopped parsley, a  
small portion of finely chopped garlic,  
salt, and pepper. Mix the eggs and  
bread crumbs, add a portion to the other  
ingredients. Make up into pieces about  
the size of ordinary sausages, roll in egg  
and bread crumbs. Fry in boiling oil  
until brown.

**STEWED FISH**—Cut a fish across in  
slices one and a half inches thick and  
sprinkle with salt. Boil two sliced onions  
until done. Pour off the water, season  
with pepper, add two cupfuls of hot wa-  
ter, and a little parsley; in this simmer  
the fish until done. Thicken the liquid  
left in the pan with a little flour and  
pour over fish.

**SCALLOPED MACARONI**—Put some plain  
boiled macaroni in a dish  
and season with pepper,  
salt, and a little catsup. Fill  
a deep dish half full, add a  
very little finely chopped  
onion and a layer of sliced  
tomatoes, having previ-  
ously covered the macaroni  
with some melted butter.  
Make a thick crust of  
mashed potato, and bake  
in a not too hot oven un-  
til brown.

**SALTED CODFISH, EPICU-  
REAN STYLE**—Let the fish  
simmer over the fire till  
tender, and then strip it  
up very finely. Mince three  
medium-sized onions, and  
fry them slowly in four  
ounces of butter until they  
are done and quite brown.  
Then add to them the  
stripped fish. Toss it all  
to get well heated, and add  
at last minute a little pap-  
rika and a few drops of  
lemon juice. Put the fish  
in the center of a hot dish  
and surround it with very  
small potato balls.

**MACARONI FAVORITE**—  
Break one-fourth package  
of macaroni, and boil with  
salt to taste, one-half hour.  
Put a layer of macaroni in  
earthen dish, then layer of  
soft bread crumbs, layer  
of grated cheese and but-  
ter. Repeat, and pour over  
top one egg well beaten  
and mixed with a cupful  
of milk. Bake slowly until  
a nice brown. This is a  
popular luncheon dish.

## Crocheted Cap and Scarf



WHAT little girl would not be delighted to find a cap  
and scarf like this among her Christmas presents?  
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# Looking Your Best

Here is a Guide to the Real Fountain of Youth

By MARGARET DRUMMOND



**D**ID you ever stop to think just what "looking young" means in any one of your friends? At first glance it means a fresh color and a bright, happy smile, a trim figure, and a quick, snappy way of talking that somehow hides many shortcomings. When you stop to analyze you find many things that were not apparent at the first look.

Looking young means, first of all, a good appearance—a well-groomed person, clear, wholesome skin, hair well brushed, glossy, and clean, even if not dressed in the extreme of fashion—and a careful attention to the little niceties of dress—clothes, gloves, stockings, all in perfect order. No holes showing, no down-at-heel shoes, no buttons off, no loose hair ends flying, no gap between belt and skirt. These are the things that make for being well dressed and, incidentally, "looking young."

In addition to all this, it involves keeping up an interest in things—the everyday events of life. The small household affairs that seem very trivial are full of real interest if only we try to find it. Then there are the great things that concern the world at large. A keen, progressive concern for all these will do a great deal toward keeping you looking young. It gives that look of brightness and intelligence to eyes that makes the oldest face interesting—that live look which always attracts, and never fails to awaken enthusiasm in everyone who comes in contact with it. It is, however, with the physical side of keeping one's youth that this article has to deal.

A beautiful woman, one who wants to look young always, is made up of two things—a well-developed skeleton and a properly developed muscle structure. Incidentally, it is necessary that her vital organs be sound and her digestion good, or good looks, at any age, are out of the question. There was a time when women disregarded this view of things and resorted to all kinds of absurdities to correct their shortcomings. At the present day, however, thanks to the many schools of hygiene and physical culture, there is a much saner idea in the minds of most women, and they are awake to the fact that beauty, good looks, and keeping young are all a matter of natural, healthy living, with strict attention at all times to eating, exercise, fresh air, and rest.

**O**NE of the most eminent physicians of the world says that the making of beauty is largely a matter of food, and his theory has proved itself correct in thousands of instances. Wherever you find clear eyes and a bright complexion you will find that the owner eats plenty of fresh fruits and vegetables. There is a great deal of truth in the old-time, popular belief that spinach makes a good skin and carrots rosy cheeks. This seems rather odd when dietitians tell us that the succulent vegetables consist principally of water; and it is true that these garden products afford little nourishment, but they do contain certain chemical substances that are healthful. The same is true of fruits. Indeed, fresh vegetables and fruits are always prescribed by "beauty specialists" for the complexion as well as for making the hair grow rapidly and luxuriantly. Sulphur, which is very good for the hair, is found to a plentiful extent in spinach, onions, peas, and beans. Plenty of fresh vegetables, fruits, cereals, little meat, no tea or coffee, lots of milk and eggs make an ideal diet for the woman who would look young.

A good figure is built on a framework of bones; but these should be carefully concealed by proper muscular development, and this is best accomplished by exercise—not necessarily a set of prescribed exercises to be gone through daily, but the exercise that comes in the course of every housewife's daily round. Sweeping, dusting, and bedmaking are all good for the development of the muscles of the chest, making for a full bust and well-covered, smooth shoulders, and hidden collar bones. Mashing potatoes and beating eggs will develop pads that will hide bony elbows and scrawny wrists. Washing clothes and dishes will keep the hands and arms smooth and white, provided the work is done care-

fully; running up- and down-stairs will keep the legs and ankles shapely and strong. In short, the woman who has to do her own housework has more opportunity, with less effort, of keeping her body healthy and her muscles supple than the woman of leisure who has hours to devote to this especial purpose. And beyond this exercise there is something bigger and better: no woman is really beautiful who has no character expressed in her face, and character is only developed through usefulness.

Nowadays, women keep their good looks much longer than in any previous generation. To be sure, the young girl will always have a great advantage over the woman who has passed the early twenties, because youth means newness, and the freshness and brightness of young girlhood cannot be reproduced or imitated successfully in later years. But the whiteness of teeth, the brightness of hair, the smoothness of skin, the suppleness of figure may all be preserved until any age by a careful observance of diet, fresh air, exercise, and rest, with no artifices that anybody could disapprove. Looking young really means the well-groomed, healthy appearance, and this can be obtained by any woman at any age if sufficient care and attention be bestowed on the person.

## What She Should Weigh

J. P. W., KENTUCKY—The correct weight for a woman of fifty-nine, who is five feet tall, is 130 pounds.

## To Gain Weight

A READER, OHIO—As you grow older your face will change in contour. Plenty of wholesome food, with nine hours of sleep regularly every night, and healthful exercise in the open air, will help you to gain weight. Do not eat candy, pastry, or rich food, but substitute vegetables, fruit, milk, eggs, and cereals. With a sensible diet your complexion should improve, especially if you keep the skin clean. This will offset any shortcomings in the way of features.

## To Stop Falling Hair

M. L., WISCONSIN—You may need a tonic, since falling hair is often an indication of low vitality. Shampoo your hair once a week, and dress it loosely and fluffily, so that the air will circulate through it. Massage the scalp lightly every night, and occasionally use a good scalp food.

## For a Rough Skin

E. S., VERMONT—If your skin chaps easily, you should not use soap on your face at all in cold weather. Bathe it in warm water, rinsing off with cold, and once a day cleanse it with a good cream. A good face powder is a protection when you go out in the air.

## Wrinkles at Twenty-three

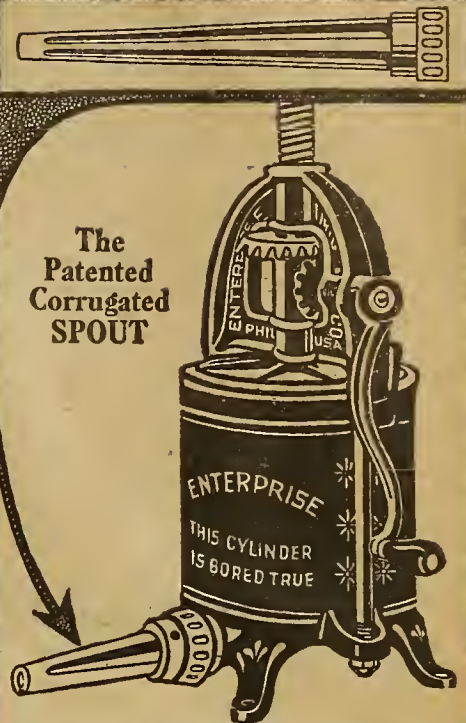
MRS. C. W., IOWA—You are entirely too young to have wrinkles. From your letter I imagine that you are undernourished. Study your diet to see if it is properly balanced. Proper habits of eating, sleeping, and exercise ought to build you up so that your weight would increase and your face fill out so it will no longer have wrinkles. Blackheads are the result of accumulations of dust and oil in the pores of the skin. Thorough cleansing of the face and frequent bathing so that the pores would be active ought to do away with them. Massage of the face with a good cold cream ought to help you also. If you will tell me your height I will tell you what you ought to weigh.

## The Right Colors

L. E. N., ARKANSAS—With your light brown hair and gray eyes you can wear almost any color, especially the lighter shades—white, pink, green, or blue. All are good. For the winter wear warm reds and greens. Navy blue is becoming to almost everyone, and makes a neat dress or suit.

Girls of fourteen should not wear jewelry.

# Preserves Sausage



The Patented Corrugated SPOUT

## "ENTERPRISE"

**Sausage Stuffer and Lard Press** has the Patented Corrugated Spout that keeps air out of the casing, preventing spoilage. Cylinder is bored true—no jamming. Lard Strainer has wide lips for safety in handling.

10 sizes and styles. 2 to 8 qts. Japanned or tinned. No. 25, 4 quart size, Japanned, \$10. Hog Book, authoritative information on raising, and pork products, by F. D. Colburn, former Sec'y Kansas Dept. Agriculture, sent for 10c stamps.

## "ENTERPRISE"

### Meat-and-Food Chopper

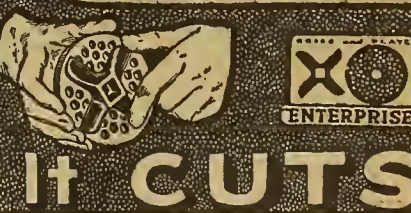
makes sausage appetizing and nutritious. It chops sausage meat uniformly; no stringy mixtures; no mangling; no squeezing out the juices. Because the four-bladed steel knife and perforated steel plate cut clean!

Use same chopper for saving food waste in kitchen.

No. 12	cuts 3 pounds per minute	\$3.75
No. 22	cuts 4 pounds per minute	\$6.50

Look for name "Enterprise" Book of "War-time Recipes," for kitchen economy, sent for 4c stamps.

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## Children's Corner

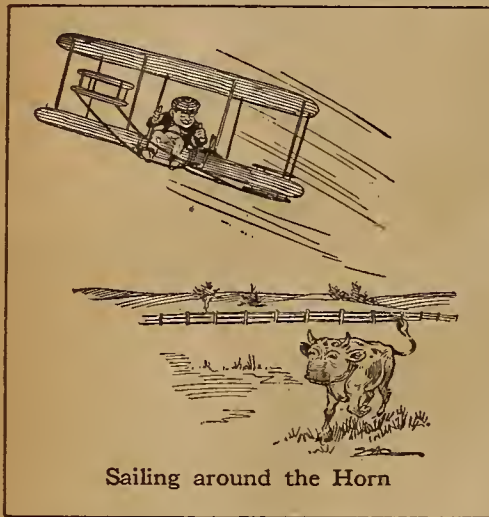
### The Battle of the Tin Army

By F. E. Brimmer

JUST as Ned was about to give the order "Forward, charge!" to his ready armies, Father called the busy general to dinner.

"Papa," begged Ned after the meal was finished, "please come and see my soldiers fight a battle. I left them all ready to charge."

Before Father had time to answer



Sailing around the Horn

there was a loud confusion in the nursery. Bang! Boom! Clatter! Clutter! "Hurry! Hurry!" cried Ned. "Just hear the terrible battle!"

Sure enough, when the little general burst onto the battle field he found that his soldiers had really been fighting while he was away. Many brave men lay dead. Field pieces were overturned. The trenches were torn to pieces.

Battle flags were scattered in the dust. Even the faithful buglers had perished. Wounded men were strewn all about, some in piles and waving arms and legs, others where they had fallen alone. Over to one side a Red Cross ambulance was waiting to carry its load from the bloody field.

Three airships still hovered over the confused scenes of struggle. One had fallen in a wreck upon the ground.

"Oh, I wish I could have been here to see it all!" cried Ned. "Just look at the brave captain with his sword still raised calling for his men to follow! See! One of the airships has been shot down. Oh!"

Ned's father began to laugh. Then Ned laughed too. For crouched in a corner was Buster, the big yellow cat. He had spied the tiny airships swinging back and forth and had leaped for them. No doubt he had mistaken them for little birds and had caused all the noise and confusion. But, just the same, Ned likes to tell about the time his soldiers really fought.

### The Children's Christmas Party

A PRIMARY teacher who had always entertained her twenty-five little pupils at a party before Christmas every year has decided, instead of giving it up this season because of the war, to use it as an opportunity to enlist the interest of the children.

She plans to send out little rhymed invitations, typewritten on note paper bordered in red, white, and blue. At the top is pasted a Santa Claus sticker, and just below are the words:

#### ENLIST IN SANTA'S ARMY

A Christmas party there's to be  
Next Monday afternoon at three,  
A different kind of one this year,  
More patriotic maybe, dear.  
For Santa'll come with empty sack  
And wants to take it loaded back.

Perhaps you'd like to help him there  
With any playthings you can spare;  
Kind Santa Claus will take them to  
Some children poorer far than you.  
And we shall have some fun as well,  
But what it is, I will not tell!

After the little guests have all arrived, Santa Claus, who is the hostess's white-haired father in disguise, will enter with jingling bells and empty sack. Instead of distributing presents he gayly goes about collecting them.

He is pretty sure to make spirited comments in his usual fashion; but, instead of saying, "Well, well, here's a book for Jimmy," he'll say, "Well, well,

here's a book from Jimmy—a fine one too, 'Dick of the Plains.'" The children will be just as delighted as if they were getting the toys.

The teacher of course will picture where the presents are to go, and how happy they will make the children who receive them.

Then will come an hour of jolly games. First blue and khaki-colored badges are passed in a basket, and each child chooses the kind he prefers and pins it on. Thus the company is divided into two groups—sailors and soldiers.

A lively contest to start with is that of the Christmas apples. Two dishes of apples, red and green respectively, are placed on a table, and two empty dishes stand on a table at the opposite end of the room, which must be cleared for action. The soldiers line up on the red side and the sailors on the green, and a kitchen spoon is handed to the leader of each group.

At a given signal the contest begins. The object is to transfer the apples in each full dish to the corresponding empty one, by means of the spoon without help from the hands. The leader on each side, after carrying his apple safely to the goal, must run back and hand the spoon to the next player in line on his side, who then has to follow the leader's example. This continues till the contest is won, but in the winning there is sure to be great rivalry between soldiers and sailors.

Very simple refreshments will please the little folks. There may be brown-bread sandwiches in the shape of Christmas trees, with a bit of red ribbon around the stem, gingerbread soldier boys, hot cocoa, and big popcorn balls done up in oiled paper tied at the top with red, white, and blue, into which a sprig of holly is tucked.

Best of all, at the heart of each corn ball is a wee surprise of some sort—a tiny penny doll, a little toy animal, or a small figure of Santa Claus.

NOTE: Three other games to play at a children's Christmas party will be sent on receipt of a stamped and self-addressed envelope, by the Entertainment Editor, FARM AND FIRESIDE, Springfield, Ohio.



"Oh, hubby, this must be one of those bungalows we hear so much about!"

### Answers to Puzzles

Puzzles Printed November 3d

#### The Puzzling Household

Six persons might have lived in that house, according to the boy's statement, but it involves a peculiar condition of relationship which requires some explanation. Let us say that Mr. A was a widower with a son who was a widower with a son. Thus two fathers and their sons. Then there are Mrs. B, a widow, with a daughter who is a widow with a daughter. Thus two mothers and their daughters. Now we marry the three A's to the three B's, and we have three childless couples.

#### The Landlady's Puzzle

The landlady was able to manipulate five 12-inch candles so as to serve her three lodgers without waste for six nights. Following is shown how the five 12-inch candles were subtracted from for six nights:

12	12	12	12	12
5	2	3	0	0
7	10	9	12	12
3	5	2	0	0
4	5	7	12	12
2	0	0	5	3
2	5	7	7	9
2	5	0	0	3
		7	7	6
		5	2	3
		2	5	3
		2	5	3

### Runaway Julietta

[CONTINUED FROM PAGE 18]

Jim suspicioned, and soon's you drove off this mornin' he tells me to git. I did git, but I come back a-purpose to tell you some things. You see, Miss Dare, I used to know your dad, back when I had my own ranch."

"Oh!" Julietta remembered suddenly. There had been a Robbins ranch in the old days. "Thank you for saying what you did about my father. But what became of your ranch?"

"Andy Burt got it," and the gray eyes filled with a glowering light of hatred. "He's another one what's got things hid. 'Tweren't long before your daddy died that Andy borrowed five thousand dollars from him—give his note for it. I reckon you ain't heard 'bout that neither. Look here, girl! Jim Wurrell's got that note, see? Well, so long's Andy keeps quiet 'bout this ranch bein' yours, Jim'll never press him for that money; and so long's Jim keeps quiet 'bout the five thousand Andy keeps his mouth shut and provides water. See? I reckon you stirred up some panic when you dropped in here on 'em so sudden. That's why Jim Wurrell tells me to git. And now I'm goin', since I've crabbed that little game o' hide-the-thimble; but," and his huge fist came up toward the sky, "I ain't through yet, so help me!"

The final words came out with a deadly vehemence that shook through his whole body. Then he stooped, slung a roll of blankets over his shoulder, and strode away without further regard to the girl.

Julietta stood rooted to the spot, her confused mind gradually clearing. Explained were the reluctance and embarrassment of Clay Thorpe; explained was the strange demeanor of the Wurrells; explained were Burt, and the scorn on the face of Clay in the post-office doorway. Clay knew that her uncle was a henchman of Andy Burt's. The knowledge that the ranch was hers and that Burt owed five thousand dollars and accumulated interest did not elate Julietta, but it did untangle the knotted skein of mystery.

Slowly she took her way toward the veranda again, and once more Mrs. Wurrell greeted her with querulous complaint.

"Didn't find Jim, eh? You been gone a long while. Didn't see anything o' Jake?"

"Yes," returned Julietta absently. "He said he was leaving."

Mrs. Wurrell stirred uneasily. "I'm feelin' queer—all shook up. Help me in, Lizzie!"

THAT same afternoon found Julietta at the county courthouse. Searching the dusty old records of twenty years gone was a tedious task. She made no explanation to the recorder, nor did she give him her name; but after an hour of labor she verified the tale which she had heard that morning. There was no title company in La Vina, but the recorder proved an able assistant.

The ranch had belonged to Larry Dare, and no one else. This fact settled, Julietta made careful notes of the facts as recorded, smiled her thanks to the official, and left him rather mystified. After which Julietta betook herself homeward and kept her own counsel.

Andy Burt drove out to the Wurrell ranch that evening in his car. Julietta and the Wurrells were sitting on the veranda. The sun had dropped behind the purple peaks, and in the softened light the girl made a pleasing picture.

The picture impressed Burt. A new, stirring, entrancing idea fastened upon him as he strode up the steps—an idea which, by the time he had taken the girl's hand in greeting, had ripened into firm resolve.

Nor was his thought difficult for Julietta to divine, even before he spoke. He was another Parkis, the "important out-of-town customer" of the Trufit Shoe Company; she recognized the same colossal self-conceit, the same complacent, appraising glances, and it angered her into silence.

"Thought I'd drop up and pay my respects, Miss Dare," he began ingratiatingly. "As I said this morning, we two ought to be real good friends." He sighed, and fanned himself with his panama. "Fact is, I've never been much of a lady's man. The girls around here—"

His voice trailed away as a flash of light from the road traversed the veranda. He stared forward with a frown.

"Huh! If there ain't a flivver turning in here," exclaimed Wurrell.

"Yes," said Julietta demurely. "Clay Thorpe promised to take me for a little drive this evening." She rose and held out her hand to Burt, upon whose face black gloom had descended.

She gave a relieved sigh as she sank back against the cushions beside Clay, who, sensing her mood, gave silent at-

tention to the "flivver." Finally she spoke, slowly, as musing aloud.

"There's no sense in it—not a bit."

His look was a question. Julietta continued:

"I was thinking about the water proposition." She straightened up. "I'm in earnest. Even in the little time I've been back here, what I've seen and heard makes me wild to be doing something. Hasn't the Commerce Commission jurisdiction over public utilities?"

"Sure. But in this case Cottonwood Creek isn't one of them, as water can easily be had by pumping. The Government doesn't take into consideration the cost of pumping."

She laid an eager, impulsive hand on Clay's sleeve.

"Now listen! If all the parties interested were to get together and act as one mind and one body, something could be done, I'm sure."

Clay nodded. The girl continued eagerly:

"Let's begin right now to find that one mind. Can't we?"

He was silent for a moment. Then, "Yes, it's possible," he returned gravely. "No concerted action has been tried because there's really no court of appeal—"

"But don't you see that such concerted action in itself is a court of appeal?" she cried. "Why have you been sitting here all these years without trying it?"

"I haven't," he answered. "I've been here just six months. I've been studying, and working. But you're right."

"Of course I'm right! Now, couldn't we get together everyone interested? If—look! Isn't that a fire over there?"

Clay glanced around, jammed down his brakes with a low word, and sat staring.

"By George, it is!" he broke out.

ACROSS the horizon, and looking much nearer than it really could be, a red glare of light hung against the clouds. From a tiny point it spread into a huge radiance with incredible swiftness, bespeaking some highly inflammable material.

"Haystacks," said Clay briefly. "Hm! Must be Burt's place!"

"Burt's?" echoed Julietta. "Not Andy Burt?"

"Yes, one of his ranches, the one that used to be the Robbins ranch. That's it, beyond a doubt. Well, let her burn. Burt won't find many men in this valley who'll get out to save his crops."

To Julietta's mind came the memory of Jake Robbins as he had parted from her that morning—a man brooding, a man wronged, a man seeking vengeance with a mad thirst. She hastily sketched him to Clay, and in a few words related what information she had gleaned from him and the action taken thereon.

"You're right," said Clay gloomily, starting the car forward again. "I've no doubt that those stacks were set afire by Jake, and it's high time for us ranchers to get together. Arson is bad enough; next thing we know it may be murder, unless ye can find some legitimate course of action. And that fool Burt can't see that he's playing with dynamite."

"Look here, Clay!" exclaimed the girl quickly. "Let's start this thing here and now—to-night! Let's visit the nearest ranch and start the word around for a mass meeting to-morrow evening; telephone everyone interested; get them all there."

"Good! What then?"

"I don't know yet. Will you do it?"

"You bet I will!" He gave the wheel a spin and sent the car sliding into a side road.

"I'm afraid," she said, "that the meeting will prove a lot of talk and nothing definite. Isn't there anyone who has a legal enough mind to put things into concrete form?"

"By George!" Clay jumped at the suggestion. "Say, we'll have a petition ready—a formal demand that Burt recognize our water rights! Then we'll take it straight to Burt and demand his signature."

Julietta turned astonished and delighted eyes upon him. She had been thinking of him as a big, strong, untrained boy, and she had found him a keen, forceful man of action.

"I'll draw up the petition myself. We'll do it to-night," he went on with growing fire. "And you, can help me, Dare. By George, we'll run right up to my house and do it now!"

The old petty rebellion against meekly submitting to another's will seized upon Julietta. She felt confused, carried away by the force of his will, and resented it.


"But I don't care to go to your house, Clay," she flared indignantly. He only gave a great, eager, boyish laugh.

"It's all right, Dare—my aunt Mary's there. And you're going. You've started this ball to rolling, and now you can finish it."


"Oh," said Julietta, and leaned back, "oh, very well, Clay."

[CONTINUED IN NEXT ISSUE]





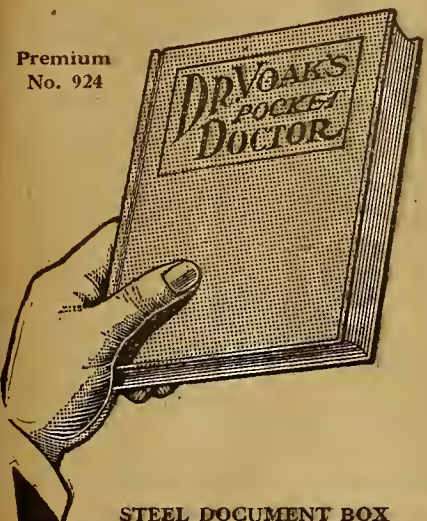
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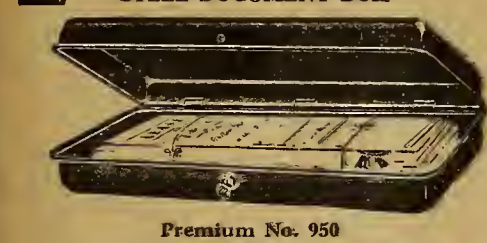
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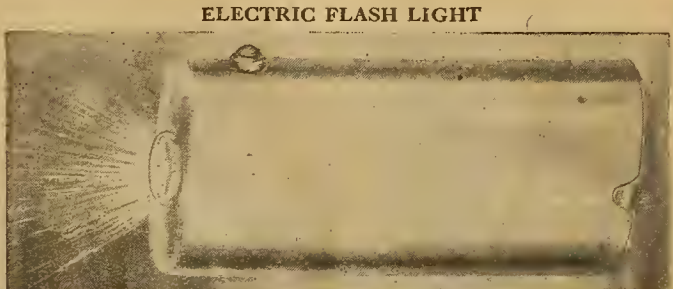
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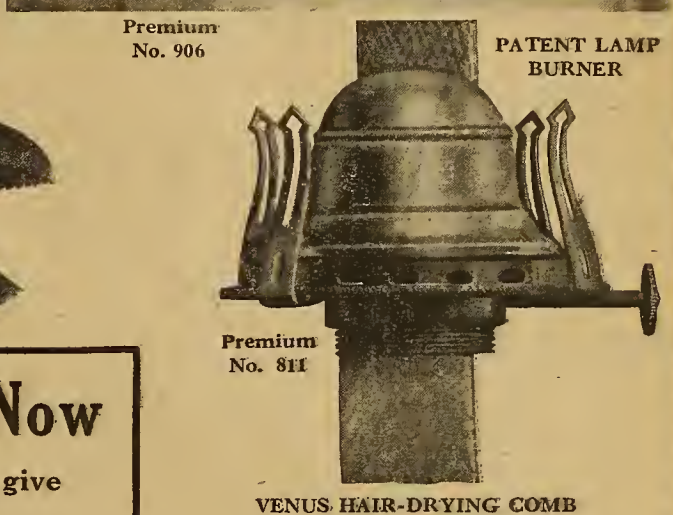
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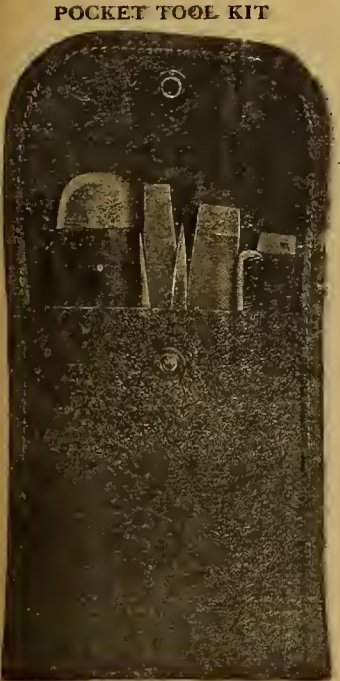


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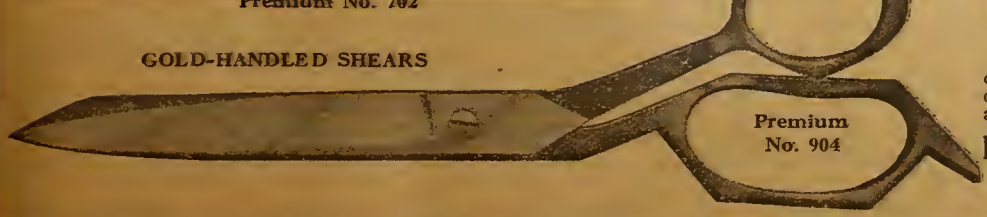
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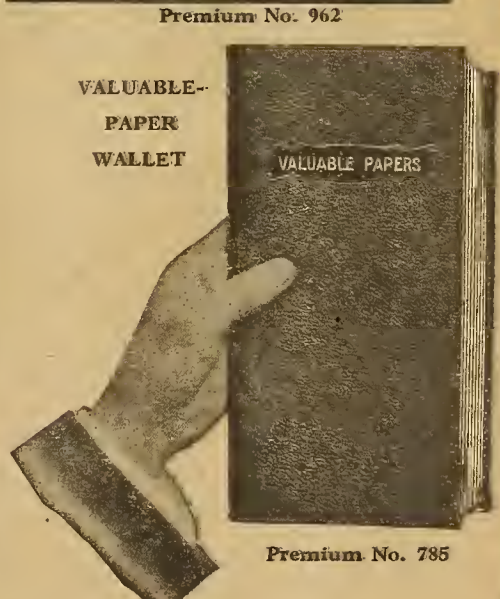


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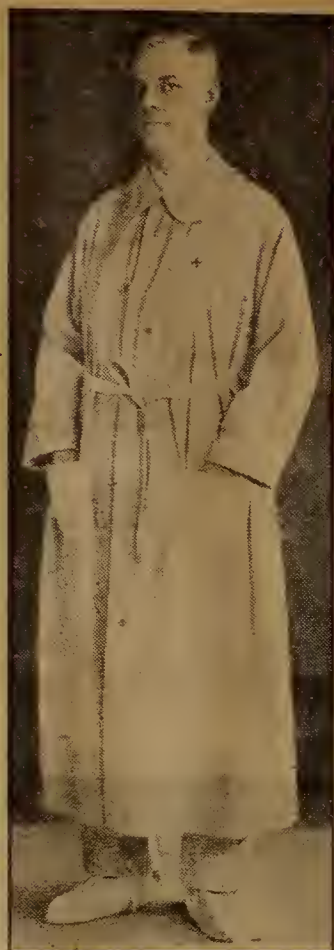
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## Sewing for Soldiers

### Make These Red Cross Hospital Garments

**M**AKE it a Red Cross Christmas in your community this year. Let every man and woman contribute his one-dollar membership fee and become a regularly enrolled member of the Red Cross. Then organize a branch in your neighborhood. The chapter in the county seat or in the nearest town will be glad to welcome you into its fold. Ask the chapter to send a representative out to help you organize and decide upon the kind of work you can best do for the Red Cross.

Knitting and sewing hospital garments and supplies is work that every woman is able to do and that nearly every woman will enjoy doing.

hospitals, proportions should be two small to one large. For French hospitals no large sizes are needed.

Special points emphasized in the report of the committee are:

1. Convalescent robes should be warm, heavy bathing preferred.

2. Pajamas should be made of good outing flannel for winter use.

3. Convalescent suits (lined pajamas) are needed, as the men wear them in place of

suits in both the American and the French hospitals.

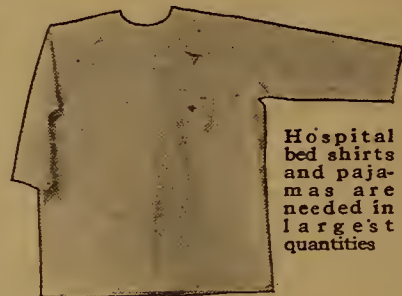
4. Both pajamas and lined pajamas are preferred with a turn-over collar with which a tie can be worn. Pajamas for French hospitals may be made in dark colors.

5. Convalescent suits (lined pajamas) should be made of bright-colored materials, so that the convalescent patient may be easily discernible.

6. Nightgowns are not desirable for either American or French hospitals. Bed jackets are used in place of them, and should be made of warm material.

7. Operating leggings are desirable made of flannel or heavy cotton flannel for winter use.

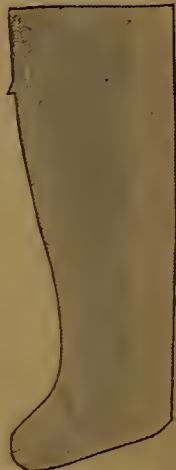
8. Heavy, warm, machine-made sweaters with long sleeves are needed by men in the tuberculosis hospitals; no particular color is mentioned.



Hospital bed shirts and pajamas are needed in largest quantities



Taped hospital bed shirts are used in special cases



Operating leggings are useful

In July the Woman's Bureau of the American Red Cross sent two representatives to France to study the question of garments and other supplies needed for the hospitals and refugees.

Models for garments have been sent to the Woman's Bureau by the committee in Paris. These models have been given to the pattern companies. The official Red Cross patterns can be obtained from chapters, stores, or any of the pattern companies for ten cents each.

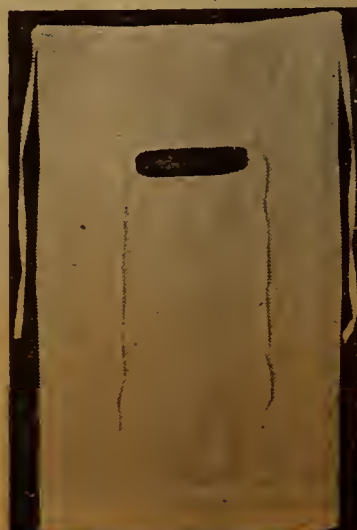
In making garments for the American



Bed socks are a great comfort



This cap is worn with surgeon's mask



Operating masks are used by surgeons



# FARM and FIRESIDE

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## The Joys of Days Undawned This Cheerful Christmas Sermon Preaches the Gift of Hope

By CHARLES E. JEFFERSON, D. D.

**T**AKE no thought for the morrow"—so it stands in the King James version of our Bible, and many have been perplexed thereby. The translation was correct in the seventeenth century, but it is misleading in the twentieth, for the reason that words sometimes change their meaning. Three hundred years ago to "take thought" meant to worry, but that is its meaning no longer; and so the Revised Version has dropped this expression and has substituted, "Be not anxious." We are not forbidden to think about to-morrow or to plan for it, but we are cautioned against thinking about it in the wrong way. We are not to fuss or worry about it. We are not to pick it up and throw it upon our back like a burden. But to make proper use of it is one of our highest privileges. It is only man who is permitted to enjoy the future. Animals are imprisoned in the present. It is man alone who has three palaces to live in—the past, the present, and the future. Every good thing which comes to us we can enjoy in three different ways: first, by anticipation; second, by realization; and third, by memory. Learned men write books about the pleasures of hope, and the pleasures of experience, and the pleasures of memory, and it has long been a matter of debate which class of pleasure is sweetest. Like the stars, they differ from one another in glory, and each class is indispensable to the completed life of man.

### A Child is Rich in Faith

**C**HILDREN are born with a genius for anticipating. They come into the world with forward-looking eyes. This is probably one reason why the Great Teacher took a little child and set him in the midst of his disciples, saying, "Of such is the Kingdom of Heaven." A child is in the Kingdom because he is rich in faith and hope and affection. He believes all things and dares to entertain vaulting expectations. He is always climbing over the fence of the present, and running out across the fields of to-morrow and the day after, shouting over the things he is going to do. It is not his disposition to anticipate the dismal and dark. He runs ahead and gathers up only the things which shine. As we grow older we fall into the habit of running ahead into quagmires and fogs. We become the prey of doleful forebodings. We frighten ourselves with terrible imaginings of things which may possibly happen. Not thus does a child behave. He cares little for yesterday. To-morrow is his paradise. The glory of coming events dazzles his heart. He enters into the enjoyment of a blessing before it arrives. A normal boy exults in the end of the school term long before it is due. Vacation looms glorious on his horizon, and he feeds his soul upon it, gazing at it over the tops of the intervening days. He can hear the fire-crackers of the Fourth of July early in June, and every good time which has been promised him flits round his sweet mind as a butterfly hovers round a flower.

Of all the radiant days of the year none can be seen so far ahead as Christmas. How far that festival casts its beams! It shines like the star which guided the Wise Men of the East. Some of us are so dull-eyed we cannot see Christmas more than a fortnight off, but every healthy child can see it at least two months distant, and glimpses of it can be caught by children of intense temperament when it is yet six months away. The Christ-

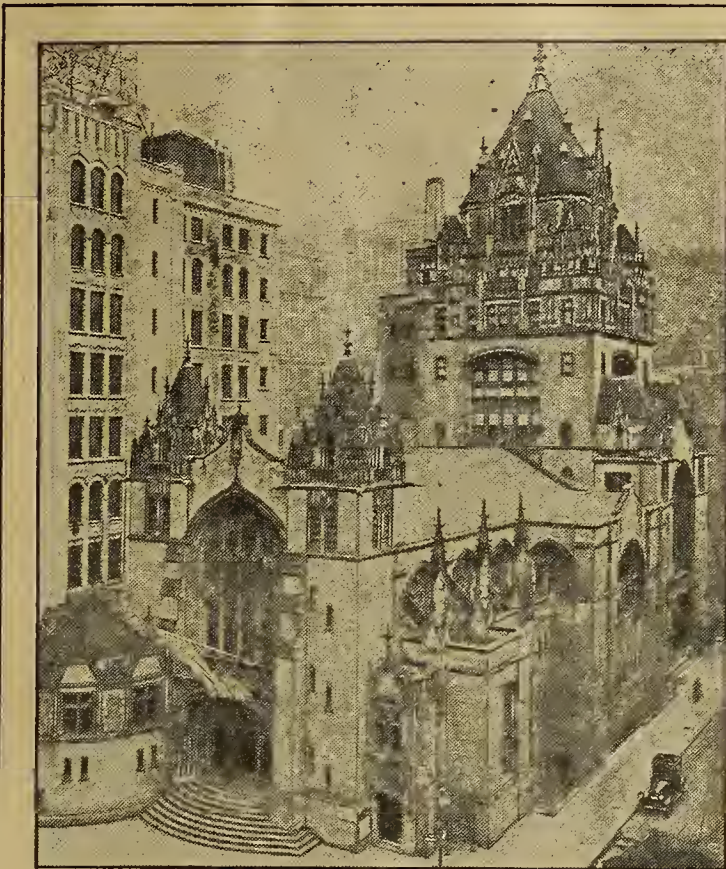
mas light is of course intermittent, being often hidden by the crowding experiences of the passing weeks, but from time to time it flashes out again, and at every flash there is a fresh joy in living. Just to know that Christmas is coming, even though it is months away, causes a child's heart to sing.

But it is not until the Thanksgiving turkey is eaten that the steam of the Christmas pudding becomes a fixed and constant phenomenon in the eye of the child—a sort of pillar of cloud by day and a pillar of fire by night, leading the impatient pilgrim on toward the promised land. December has only thirty-one days, but the first twenty-four of them are the longest in the year, and the last of the twenty-four is the longest of all. To boys and girls it seems they will never pass. They are counted again and again. One of the first uses to which the tables of addition and subtraction are put is computing the distance to Christmas. This is the beginning of all our applied mathematics. It also furnishes scope for the play of the imagination. The picturing faculty of the mind has an ideal subject in Christmas. The artists have often pictured for us children playing with their Christmas toys. Why does not someone

paint us a child toying with Christmas itself before Christmas dawns? Alas, who can put upon canvas the unpicturable loveliness of a child's soul filled with Christmas dreams!

It is a common saying that Christmas is the children's day, and so it is. We have often listened to their merry laughter on Christmas morning and have followed them in their games through the hilarious day; but we cut out of the Christmas song the notes of its very highest rapture if we fail to take into account those blessed hours of rapt anticipation, those heavenly seasons of forward-looking wonder, those thrilling moments of awe-struck and trembling expectation which shine like gems in the gray and interminable December days which lead up to the Christmas celebration.

Christmas is lived a thousand times before it comes. The Christmas sweets are tasted before they are taken from the tree. The Christ-



Copyright by Underwood & Underwood, N. Y.

The Broadway Tabernacle in New York, where Dr. Jefferson, pastor, tells of enjoying to-morrow's pleasures to-day

mas presents are reveled in before Santa Claus puts them on his sled. The human spirit, impatient under the restraints of the clock, breaks away and lives Christmas before the prosaic almanac grants permission. How poor the world would be if deprived of the pleasure of expectation! Good things would lose half their virtue if we could not enjoy them before we get them into our hands. Looking forward is one of the fountains at which we drink life and vigor. Imagine, if you can, dropping into Christmas in the twinkling of an eye, without the privilege of tasting its advance! Christmas becomes the great day of the year because it is preceded by such elaborate and long-drawn and loving preparation. To cut off all that preceded Christmas would be like shearing the sun of its beams. The whole

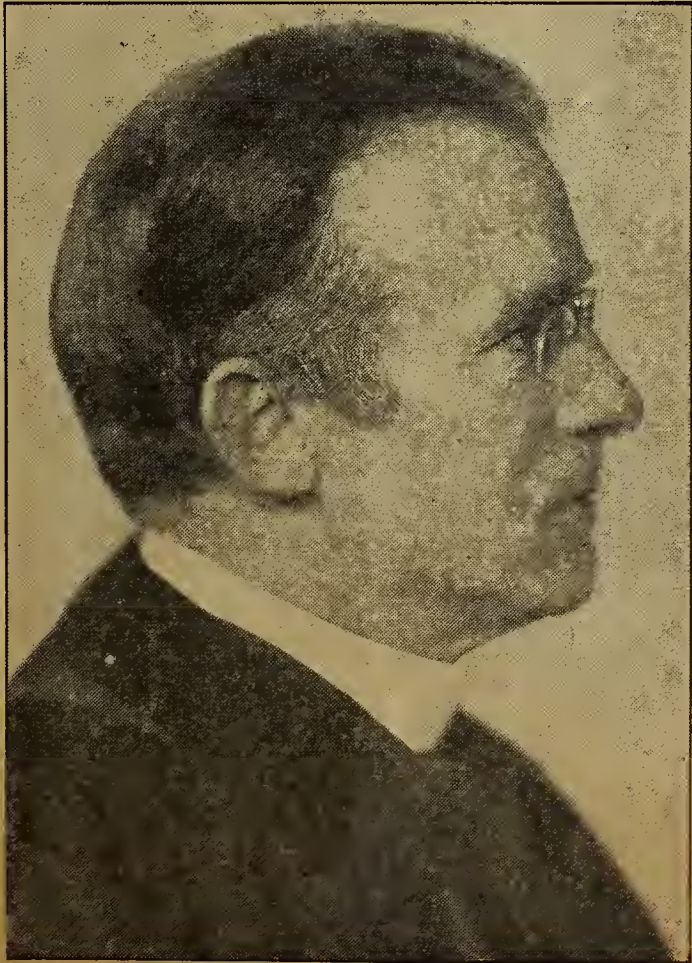
year becomes brighter to everybody who has Christmas to look forward to.

It is part of the mission of the Christian religion to foster and develop the spirit of anticipation. "Hope," says Ruskin, "is the distinguishing characteristic of the Christian faith." Christianity keeps us on the tip-toe of expectancy. It entices us to look ahead. It will not permit us to consider present situations final. No matter how high we climb we are directed to a still loftier height. However great our joy, there is a still sweeter blessedness ahead of us. Satisfaction with present attainments is forbidden because of the mightier achievements within the compass of our developing powers. It was the habit of Jesus to keep his disciples' eyes on the future. When they were amazed by what they saw he thrilled them by saying, "Ye shall see greater things than these." When they were astounded by his miracles he assured them, "Greater things than these shall ye do." When they exulted in their successes he reminded them of their relationship to a world whose glories man cannot now conceive. He himself had the heart of a child. He was always looking ahead. When he saw dark things immediately in front of him he looked farther. He always looked through the darkness into the light. He never spoke of his death without referring to what would happen on the third day. For the joy that was set before him he endured the agony of the cross.

### Look Forward to Happiness

**I**T IS an interesting fact that the first Christmas was preceded by more than a thousand years of expectation. Expectancy is a school in which the Almighty develops and trains the powers of the soul. For centuries the Hebrews kept their eyes fixed on the future. They looked for the advent of a man who would ease their yoke and lighten their burden. Unlike all their neighbors they placed the golden age in front of them. Other nations habitually looked backward. According to the Greeks and Romans, history began with an age of gold, and this was followed by an age of silver, which in time gave place to an age of bronze, to be succeeded by an age of iron. The Hebrews alone saw the golden time ahead of them. This gave to their literature a unique buoyancy and to their character a strength not matched by that of any other people. Hostile empires trampled them again and again in the dust, but overwhelming disaster never dimmed their vision of brighter days to come. Their leaders in Church and State were constantly falling short of their expectations, but they never ceased to be confident that some day one would come in whom their ideal would be realized, a prophet who would speak the truth, a [CONTINUED ON PAGE 14]

EW



"The animal is imprisoned in the present, but men may enjoy the past and future as well," says Doctor Jefferson



# The High Dollar in Alfalfa

## Neat Bales and Good Shipping Help Determine Price

By E. R. ADAMS

**A**LFAFA hay is so high priced nowadays that "Hooverizing" every straw not only pays handsomely, but is also a national and patriotic duty.

To fully understand its conservation requires something of an understanding of markets and methods.

Kansas City is conceded to be the world's greatest hay market, and it was there that these observations were made. The hay salesman represents the hay grower. The hay buyer represents the consumer. The success of each depends on his capacity to please his client. Each must guard the interests of his customers to hold their trade. These two agents, governed by the rules of the Kansas City Hay Dealers' Association, protecting both producer and consumer, have made this market the largest in the world.

If we assume that 80 per cent of the hay arriving at Kansas City is sold for reshipment, we will not be far wrong. The agent for the buyer knows whether the consumer wants the hay for horses, mules, or dairy feeding. Very often, however, the hay does not go to the market town, but a buyer has orders to fill and goes out to the hay grower. He fills the orders and ships direct to his client, saving freight, which is oftentimes a big item. In many ways the order buyer is a benefit to the local grower, for he gives him a market at home. Cattle feeders have, in times gone by, not paid the full worth of the hay, but since hay buyers have been in the field the alfalfa grower is assured of the benefits that come from competitive buying. The points the buyer considers are: Feeding value, regardless of appearances; general character and condition;

the loading, whether the car is full or minimum weight, whether bales are loaded on edge or flat, the size of the bales, and whether well baled or not. He watches for grassy, weedy, stained, and musty bales.

Imagine yourself in Kansas City and follow me to the hay tracks where the buying and selling are done. We will supply ourselves with a copy of the Kansas City Hay Dealers' Association rules for grading alfalfa hay. It reads:

"Choice alfalfa shall be reasonably fine, leafy alfalfa of bright green color, properly cured, sound, sweet, and well baled.

"No. 1 alfalfa shall be reasonably coarse alfalfa of a bright green color, or reasonably fine, leafy alfalfa of a good color, and may contain 2 per cent of foreign grasses; 5 per cent of air-bleached hay on outside of bale allowed, but must be sound and well baled.

"Standard alfalfa may be of green color, of coarse or medium texture, and may contain 5 per cent of foreign matter; or it may be of green color, of coarse or medium texture, 20 per cent bleached and 2 per cent foreign matter; or it may be of greenish cast, of fine stem and clinging foliage, and may contain 5 per cent foreign matter. All to be sound, sweet, and well baled.

"No. 2 alfalfa shall be of any sound, sweet, and well-baled alfalfa, not good enough for standard, and may contain 10 per cent foreign matter.

"No. 3 alfalfa may contain 25 per cent stack-spotted hay, but must be dry and not contain more than 8 per cent of foreign matter; or it may be of a green color and may contain 50 per cent of foreign matter; or it may be set alfalfa and may contain 5 per cent foreign matter. All to be reasonably well baled.

"No-grade alfalfa shall include all alfalfa not good enough for No. 3."

Now we are ready to go out to the market.

### Load Bales on Edge

**A**LL hay coming into this market is placed on the track for inspection. A gang of workmen, called "pluggers," take out 50 or 60 bales from each car and stack them on the floor. The car is opened from end to end. There is no "car-door" inspection. The inspector examines and grades each car, but the hay is not sold on his inspection alone, but sold on its real worth. There is a tendency to sneak "busted" bales into the car, but it is a money-losing business. It is much better to weigh them back and take them home. For when the pluggers open the car to inspect it they are likely to run across some of these "cripples," and the inspector will mark the whole car lower, assuming that if some bad bales are present where he can see them, there will be many more where he cannot get to them. The same principle holds true of an occasional low-grade bale. Do not, for the sake of getting

rid of a hundred pounds of damaged hay, risk having a whole car of good hay graded down. The buyer and salesman carefully examine the hay, one arguing in favor of the grade and the other against it, until the trade is made—or lost.

Here is a car that has been plugged. This hay is off-grade stuff; it has no color; was probably loaded while in the sweat. It is not heating, but it does have a poor appearance—too much of a gray cast to the color. It is a car on which the salesman may earn his commission, but upon which he may lose his reputation as a first-class hay salesman. Probably the producer thought it would go through all right and will be displeased when he receives his returns.

Here's another car. This is better stuff, fairly good color, but the plug shows up several stained bales—bales placed on the ground when baling, and allowed

to draw moisture from the earth for a day or two. This spoils the appearance of the whole lot. This hay sold for \$2.50 less than it would have brought had those stained bales been left at home. It grades "standard alfalfa, part stained."

This car looks better. Sold for \$14 the salesman says. This hay would have sold for more money if the bales had been loaded on edge instead of flat. Hay damages worse when loaded flat—more danger of heating.

Let's look at this hay in the furniture car. Nice-looking hay. Grades No. 1, but sold for \$14 because it is loaded below minimum weight, and the bill of lading is not protected by the notation, "Thirty-six-foot car ordered, forty-foot furnished." The buyer will have to pay freight for more hay than is in the car, but the producer foots the bill—he would have received

\$16 for that hay if the bill of lading had been protected by notation, or if the car had been loaded to the maximum.

This automobile car contains some dandy good hay. It has the color—that bright pea-green color—and is well baled. No grass or off-color stuff in those bales; they all look exactly alike. Sold for \$20 the salesman says. That fellow took pride in his hay. We can tell that by looking at those bales, and he will be pleased when the commission house sends him a draft for "Fifteen tons choice alfalfa."

It pays to take care of alfalfa. Never put it on the ground after it has been baled. Throw straw on the ground or, better still, lay rails down so that there will be an air space under the bales. This gives the hay a chance to dry out, and saves molding. A good tarpaulin is a necessity around high-priced hay. If the baling is being done outdoors, open stacks and piles must be covered up every night if there is the slightest chance of a shower, and even heavy dews damage the appearance of alfalfa. The profit that you want most is the extra profit that comes with the least expenditure of energy and money, and that profit is in getting the high price for what you already have.

A good hay barn on an alfalfa farm will soon pay for itself. The hay is much more easily saved out of the windrow, and baling

can continue under all weather conditions. It is a little harder to get hay out of a barn than out of a stack, but barn hay is usually choice hay and brings the highest market price.

You ask, "Can I ship my own hay direct to market?" or "If I ship my own hay, will I receive the same treatment extended a regular shipper?" Yes, you can. Just observe the following rules and you will make few mistakes:

1. Load cars to full minimum weight or have bill of lading protected by agent's notation.
2. Load cars of same grade—do not load stained or spotted bales in same car with good hay.
3. Always load bales on edge; not flat.
4. Send number of bales and weight along with bill of lading.
5. Do not bale hay containing foreign moisture, caused by dew or rain. Hay will cure, and take care of its own moisture, while foreign moisture is damaging.
6. When shipping, be careful to select a reliable dealer.

## Bargains in Steaks

By OWEN BLACKLEDGE

**F**ARMERS in southern Iowa have beef on their tables the year around. With the butcher charging up to 30 cents for the best cuts, it would seem that their meat bills are enormous, but these farmers pay themselves the outsider's profit—they buy from themselves instead of the middlemen, and thus effect real economy.

There are in Page and adjoining counties twenty beef clubs that have been in operation many years, and the members are so well pleased with the results obtained that many new clubs are being formed for next year.

The price of beef, as with almost every other article of diet, has gone soaring skyward, and the farmers having their own animals have learned that they can kill them much more cheaply than can the butchers in the cities, who have big rents to pay. These beef clubs do away with high prices. They give a square deal to all the members. They make a better neighborhood, as they spread the gospel of co-operation among their members.

Each club elects a resident secretary and treasurer and two meat inspectors, who, with the butcher, inspect each animal that is to be killed. A club has from twenty to fifty members. Each member may own one share or any part of a share. One member of each club has a sanitary slaughterhouse where all beefs are killed. One butcher does the work for five or more clubs, and receives the hides and tallow as his pay for the work.

At the end of the year the weights are added up, and if one man has furnished more than his share he is paid for it, and if he has furnished less he must pay the club. It is the object of the club to have only the healthiest and best young animals slaughtered, which in some clubs may not be more than three years old.

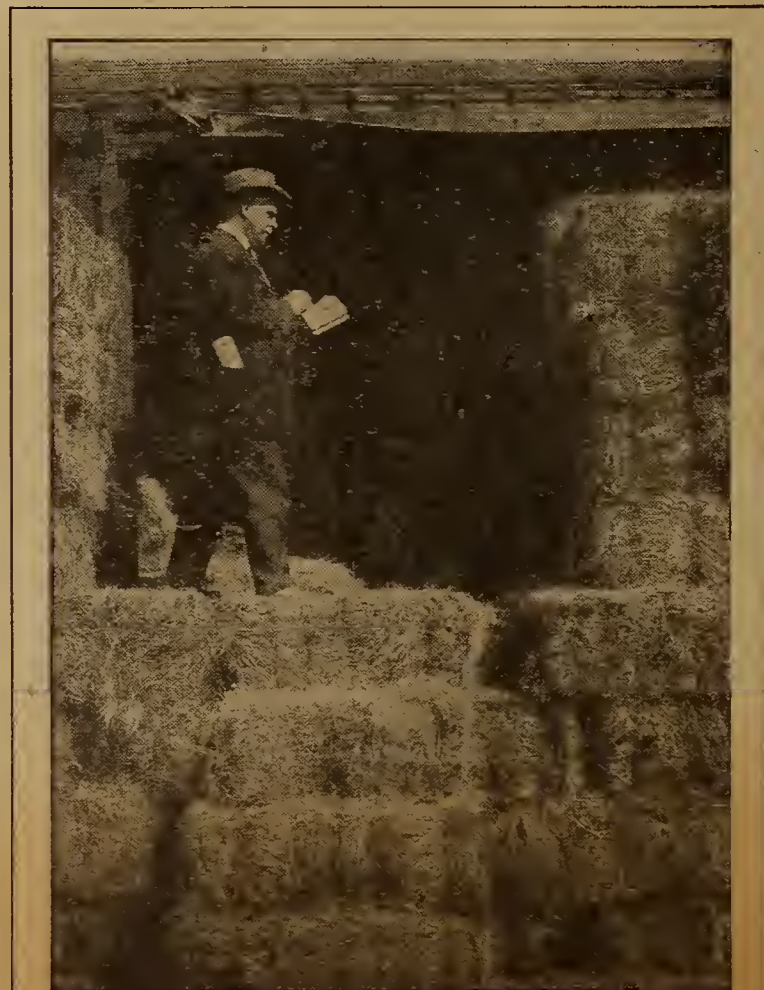
In these times of high cost of living, when local butchers are selling beef for 18 to 28 cents a pound, it makes quite a saving for the farmer to slaughter his own animals.

One of the oldest clubs has been in operation for more than ten years. One of the largest clubs in Page County kills two beefs each week. This butcher kills on an average at the five clubs, 4,500 pounds of beef weekly. Beefers are inspected and weighed before and after the beef has been dressed. The average weight is from 700 to 1,000 pounds. They are slaughtered in the evening and left to cool. The butcher gets up at 2 A. M. and begins cutting up the beef, and has it all ready for delivery between 4 and 5 A. M. He puts each kind of meat in a separate pile, and gives each man a portion according to his share. It costs the members on an average of 14 cents a pound. This is much cheaper than they can buy it from the city butcher, and the beef ring makes a local market that has a beneficial effect on the community. It makes an almost sure market for certain grades of cattle.

E W



The difference in the way hay is handled is readily seen when it is on the track for examination



Inspectors look farther than the door. They "plug" until a fair estimate of the whole car is formed



# The Farm Boy Cavaliers

## An Outlet for the "Gang" Spirit of the Country Lad

By JOHN D. BROWN

**T**HE Farm Boy Cavaliers of America is a new organization for country boys, designed to supplement the Boy Scouts of America. That great boys' organization, established here over six years ago, has in its few years of existence made remarkable growth and has acquired international fame. But the Boy Scouts are not adapted to the farm, and are found only in cities and villages and, perhaps, summer resorts. Conditions in the country make successful scouting there impractical, and investigators have been unable to find anywhere in our great nation a single successful rural scout troop.

It is generally admitted that the Boy Scouts is a great institution for the good of the boys and the world. Therefore there was an emphatic need for scout service among country boys, and emphatically have they clamored for Scout membership. But the Scout method of troop formation and other rules always debarred the rural lad.

It was this condition which developed the Cavalier idea. The plan was originated only a few years ago by Professor Mayne of the University of Minnesota. Unlike the many magazine clubs and others of small scope, the Cavalier movement is founded upon the great, solid lines of the nation itself. There will eventually be state and national headquarters in the various capitals, and so on down to county and township heads. The movement has already made great growth, no less than six States having at least one troop, and a leader of boys' work in Brazil has adopted it in that country.

Strong and sound as its government are the aims and principles of the Cavalier plan. The pledge, which each boy must give embodies them all: I pledge my word of honor that I will do my best to serve my God, my country, and all persons who need my service; that I will keep myself clean in body and mind, and that I will observe the principles of the Farm Boy Cavaliers.

The principles which guide them are: Service, preparedness, personal honor, obedience, cleanliness, thrift, courtesy, courage, reverence, kindness, charity, industry, and loyalty. The motto is "Service, Honor, Thrift, and Loyalty." Into those four words are condensed all the requisites of true nobility and success and happiness. Where is the parent who can righteously discourage any boy from entering a comradeship of such aims and principles?

They should rather try to persuade the boys to form themselves into Cavalier troops. The method is simple and easy. Four boys are sufficient for a troop, and they need only send their names, written beneath the Cavalier pledge, to the Secretary of State of the Farm Boy Cavaliers, University Farm, St. Paul, Minnesota, to become active Cavaliers. If they have horses they are styled Cavaliers; if not, they are Yeomen. Horsemanship is strongly encouraged and, if at all possible, troops should be mounted, as more pleasure and greater efficiency is derived thereby. The Cavaliers have a regulation uniform, and a special 48-page magazine, "The Cavalier News," is issued monthly and records their growth.

But Yeoman or Cavalier, a boy's first rank is Page—the learner, the minor, the first rank in chivalry. And then the Esquire, and at last the Knight, which he remains, whatever his office or duties may be.

### The Girls Also Organize

**T**HE girls are also included in this national enterprise. They may form troops in the same way as do boys, they subscribe to the same pledge and principles, and as Home Cavaliers their ranks are Novice, Demoiselle, and Lady. These titles and the name of the organization have been chosen because they were employed in the ancient order of Chivalry, one of childhood's dearest and strongest ideals and famed in song and story.

"Thrift" is one of the Cavalier's watchwords; "Service" is another. The Cavalier's activities may be considered as domestic and public. His domestic line of action follows any means whereby the boy may earn the money he must have for promotion of rank, and for his own personal needs. What difference does it make whether Father takes everything his boy earns and buys his necessities for him, or whether he permits the boy to receive a certain share of the farm proceeds and learn to buy things himself? More difference than many suppose, since in the latter case the boy learns early the methods of banking, the

proper values of articles, and he learns the great habit of thrift. The Boy Cavalier is supposed to receive the co-operation of his parents to the extent of giving him a share in the poultry or other stock, or by permitting him to have all he can make from a small piece of land in addition to the regular farm work.

The money he thus secures may be invested in the farm with Father's advice, and in this way the boy acquires a real, living interest in farming. He is led to study the various arts of agriculture by the list of over forty subjects for achievement badges, such as Soils, Buttermaking, Beekeeping, Plowing.

His public activities are usually to be performed in the company of his troop. They may fill in bad bumps over culverts, report weak spots in bridges or washouts, they may keep the roadside clean and help make it beautiful, they may do great good by burning tent caterpillars so often seen by the roadway—in a host of ways they may be of great practical good to the public.

Their meetings should be weekly or biweekly, and Saturday afternoon is, perhaps, the best day to choose. On fair days the meetings should be out of doors, but in bad weather they may be held in some home or public building. At every meeting strict parliamentary procedure must be followed, for through it comes one of the association's greatest benefits to boys and girls alike—the ability to think and talk in public.

However, the Cavaliers will not confine themselves

will be wholesome companionship with neighbor boys under the direction of good home influence. Instead of frowning upon the things that appeal to the boy in the way of pleasure and recreation, provide such things under proper supervision.

If the farm boy has plenty of fun, especially out in the open, in the company of boys of his own age, he will not become discontented, and will be stimulated to better work in school and on the farm.

## Boys and the Church

By BEATRICE BRACE

**"W**HY is it almost impossible to keep our really worth-while boys, after they reach the age of fourteen and upward, interested in church and Sunday school?" is the query of an anxious mother.

As a lover of boys, as well as the mother of boys, I want to tell you how I think we might do so. Of course, every boy is worth while, no matter who he is or what he is; but what the anxious mother meant was red-blooded, healthy, bright, and life-abounding boys.

All too often this class of boys are not found interested in the church, and their love of life, and excitement, and adventure often leads them into wrong paths. They could do so much for the church, and the church so very much for them, if only we would meet them on their own plane.

I think all who understand boys, and especially boys from fourteen to eighteen years of age, know their shrinking from any show of sentimentality. All their tender thoughts and feelings are hidden under an assumed brusqueness of manner, and they are so afraid of being "sissified."

On the other hand, they have a good deal of penetration, and the majority of them are doing considerable thinking on their own responsibility these days. They can't see any harm in going into an orderly, well-regulated poolroom and knocking a few little balls about on a table. It does not harm them so far as they can see, nor anyone else. They meet many boys there from the best families in town. There are seats and places to lounge—everyone is at ease and sociable and jolly. Where is the harm? they reason to themselves, and to their mother and father.

But the church says, "It is wicked and they are bad boys." If their love of motion and music

doesn't approve. If a few get together on Sunday afternoon and send up a few shouts of joyous, exuberant laughter, the neighbors are shocked. If they smoke a cigarette they are on the way to the gutter or the gallows.

Now, why can't the church gather these boys together and lay aside some of its staidness, and sobriety, and sanctimoniousness, and teach the Bible as simple ancient history, with Jesus a simple pattern for all mankind to follow? They would be interested almost immediately, for nearly every boy likes history. Boys are not naturally devout, and they dislike things taught in a devout manner. To them it seems affectation, and what man's man can endure affectation? And the boy is only the younger man.

Again, teach the Bible from the standpoint of its literary composition. For classic simplicity, dramatic element, dignity of style, power and forcefulness of expression, brevity and terseness, it stands preëminent. Taught from this standpoint, boys who are already studying English literature in school, and making a study of many of the classics, will find the Bible fascinating. Teach right for right's sake. Teach them that they may reap what they sow in the hereafter, but they most certainly will reap just what they sow in this life. Teach them the power of right thinking. Teach them the value of a moral life to them now. Healthy, normal boys are not thinking of dying: they are thinking of living—living abundantly; if they have a religion they want it to be a religion to live by. And, after all, don't you think a religion to live by would be a good one to die by?

Teach not how to die, but how to live. Let us gather our boys into the church and guide them into ways that will lead to their highest good, and do it by getting their point of view. Then I think we will have our "big boys" in the church—and we want them there.



Service, honor, thrift, and loyalty are the ideals which inspire the mounted Cavaliers, but most of the activities involve practical farm operations

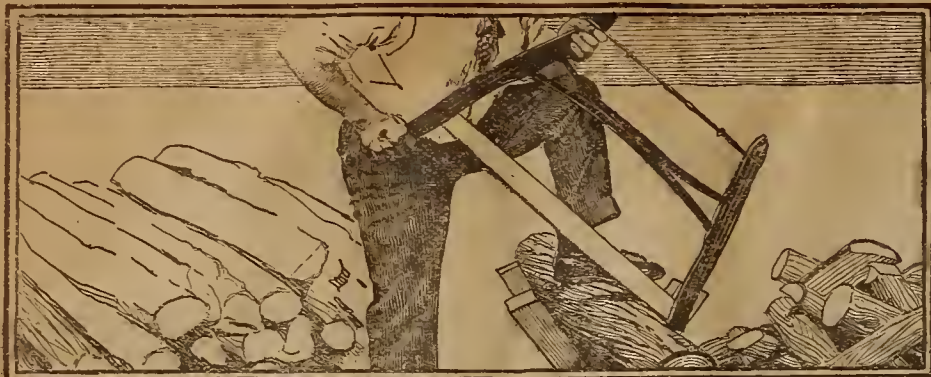
to weekly meetings and their chosen activities. A single troop or several combined may occasionally take a trip—an instruction tour—to the nearest city, to the state experiment farm, to fairs, to the home of some well-known agriculturist, and by going in a body all should be more greatly benefited than if each one went alone. Think of the value of a trip to an expert farmer's home, the inspiration given by his model buildings, pedigreed stock, beautiful home and lawns. Think of the importance of letting the boys see the city in its own true light, satisfying their curiosity and teaching them to compare its life with their own.

Yet some farmers disapprove of these "new ideas." They do not want their boys to have a cent in their own name; they give them no half-holidays at all; they deprive them almost wholly of any spending money; in short, they get all the service they can from them and give very little in return. At eighteen such boys are just learning to deposit money in a bank and to write checks, and, entirely ignorant of the city, they escape from the farm thinking to find in the city life the joy and success they have so long been missing.

The farmer who refuses his boy proper freedom, in this age as in all others, is likely merely to drive him from the farm. Foresight is what we need and so often woefully lack. Happy the farmer who can see ahead and is willing to direct his boy's life into the right channels, no matter how greatly it may clash with his own convenience. The man who gives his boy Cavalier membership to-day is not likely to find as age fastens upon him that he "killed the goose of the golden eggs"—his boy will still be with him, an ardent, beloved partner in the great business of the farm.

The boy who gives up life on the farm and goes to the town or city usually is hungry for companionship. This is what the Cavalier troop will give him, and it





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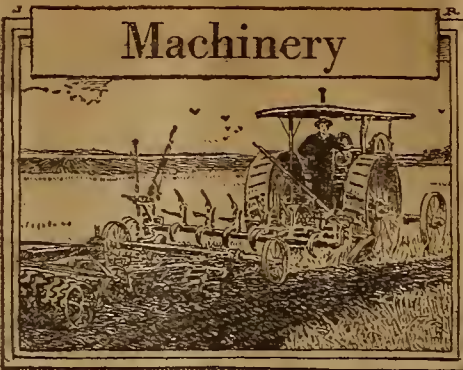
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# DISSTON

## SAWS AND TOOLS

## Machinery



### The Traction Engine

(By M. Baird)

THE traction engine will replace many of the horses on the farm of the future, but it probably will never replace them all. Farming is to a considerable extent an engineering problem which offers an excellent field and market for engineering ability and for machinery developed and built.

Many manufacturers are building traction engines in the United States. The designs differ greatly. Some are engines with horizontal cylinders, others with vertical cylinders. In some cases the power of the engine is given to one wheel, in others to two, while still others pull with all four wheels. Several makes are of the so-called "creeping grip" types.

The diversity of styles is very great; but, after all, a careful examination will reveal the fact that the best makes of engines are very similar. In fact, the whole traction engine industry is undergoing a standardization process. Freak designs are being weeded out, and only types in accordance with the best mechanical engineering practice are retained. Before long the standard type of traction engine will be available, and, like the standard type of automobile, will give satisfaction in every detail.

Low first cost of any machine should not be made the dominant feature. A high-grade traction engine must be the product of the best engineering talent, which means brains and money, and this must be included in the price of the machine.

The backing of a company whose financial standing is an assurance that the company will remain in business for many years is an important consideration. Expert service and repair parts may be needed at any time. A high-grade manufacturing company is usually careful about maintaining its reputation and will see to it that it delivers the goods.

### Plan the Tractor's Work

Before making up your mind to purchase a traction engine you must carefully analyze your farm and the work of a traction engine. In analyzing, you must decide whether you can plan your work so as to keep the traction engine busy. Most persons spend too much time in working and too little time in planning their work.

Proper tillage is an important factor in farming if good crops and big crops are expected. The tractor will probably never entirely replace the horse, but will replace many horses on large farms, and especially in connection with the heavy farm work. The engine has advantages over the horse in that it is not affected by heat, can be used for deep plowing, eliminates to a considerable extent the hired-man troubles, can work continuously day and night, and can be used to advantage at all seasons of the year.

Like horses, traction engines are liable to internal disorder on account of overwork. Some persons overload their animals and use the same practice when

dealing with traction engines. They get by with it for a time, but all at once, when least expected and most needed, the engine breaks down.

Who is blamed? The engine and its manufacturer.

The traction engine is suited for heavy belt work, such as hay-baling, corn-shelling, pumping water for irrigation and other purposes, grinding feed, ensilage-cutting, sawing wood, threshing, husking, hulling, shredding, filling silos, crushing rock, and elevating grain. The traction engine can be used for hauling grain and other produce to the shipping point or to the market, and also for hauling fertilizer and other material to the farm.

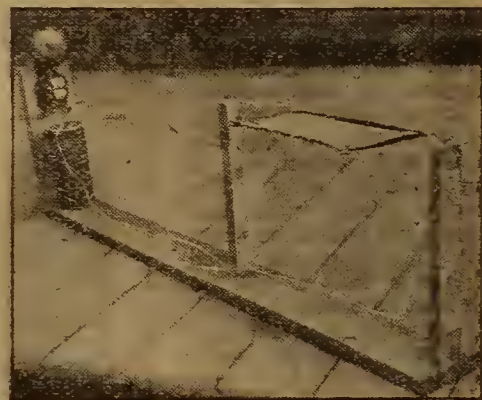
In connection with road work, it has been utilized for pulling graders, scrapers, road plows, drags, and other road implements as well as road materials.

A farmer who can find many uses for a traction engine, and who can make use of power the whole year round, will find the traction engine a profitable investment.

### Snowstorm Signal

By F. E. Brimmer

WITH a great many square yards of walks and roads to keep open in the winter season, I find this device mighty convenient to warn me of unexpected snowstorms during the night. Often snow will fall so silently that I wake up in the morning to find that I have more work on my hands than I can



get done before time for the walks and roads to be used, but not so since I contrived this snow signal.

Between two posts 12 inches high and 14 inches apart I hung a silk cloth about 8x6 inches. The silk is held by stiff copper wire, each end of the cloth being wired to bell and battery on the rear end of the base. Since silk is a non-conductor of electricity the bell will not ring.

In case I am suspicious that a snowstorm may come during the night I raise the bedroom window and extend the end of the device out so that any falling snow will strike upon the silk. Salt should be sprinkled on the cloth, so that when snow falls to any great amount it is melted by the salt, thoroughly wets the silk, and thus the circuit is completed and the bell rings. In this way I am warned of the storm and can get out earlier than usual in the morning to take care of my work.

### Rolling an Endless Belt

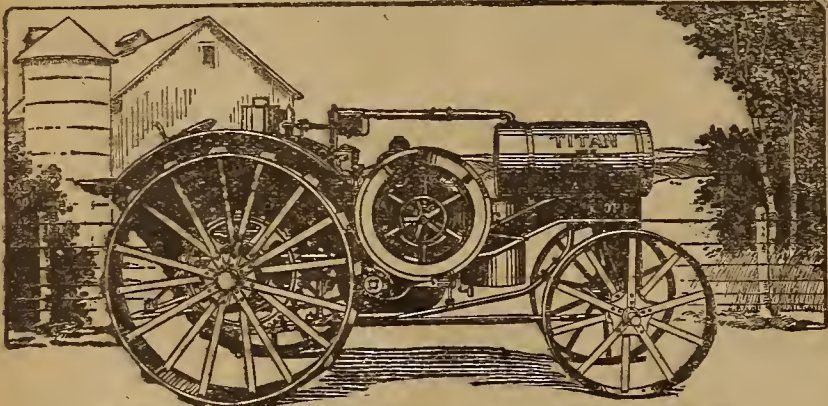
THIS is a simple, practical way to roll an endless belt when you have no reel: Put the belt on the floor or ground and pick up the top layer about four feet from one end. Make a loop to start rolling and you will be surprised to see what a neat and easy job you can make of what was once difficult and clumsy.

I have used this method for several years, and it may help someone to whom it is new.



The horse must rest, but the tractor is a willing and tireless servant, ready for continuous runs in rush jobs

EW



## The Titan Tractor Record

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# Lambs and a Bank Account

## The Hothouse Variety Returns Usurious Interest

By ALLAN MAXWELL

**H**OTHOUSE or spring-lamb production, from the standpoint of both demand and profit, is a phase of the farming business which is not practiced as widely as it should be. From experience I know it is profitable, for during the last six years my income from this branch of the business has been \$4,000. My investment, originally, was a little less than \$600.

After my first year's experience, spring-lamb production became a fixed part of my business. I tried it as an experiment, but when I saw how profitable it was, it no longer remained a side line—I adopted it as a money-making practice. Spring-lamb production requires some skillful management and preparation, but the returns are enough to pay me for my trouble. As a rule, the farmers do not care to raise sheep, as they think fencing requirements expensive and dogs a menace; but any business that will make \$4,000 on a \$600 investment in six years is worth a great deal of trouble. Of course, this amount hasn't been all profit, but a large percentage of it was, as it came from the sheep, lambs, and wool.

Last year, from 80 spring lambs, I realized \$395.66. This amount was clear of the cost of production, and it took me but ninety days to earn it—ninety days when my time was not taken up with other farm work. Some years my sheep operations have been considerably larger.

In 1911 I bought 100 grade Hampshire ewes and two pure-bred bucks. The ewes cost me \$5 a head, and the bucks \$50 each. This foundation flock has been sold, but it has been replaced by offspring of the original flock. It is necessary that I preserve my ewe lambs because I want to keep up the early-breeding strain. This is especially important if one wants to get early lambs. I endeavor to sell my lambs at Easter time, so the necessity of having them dropped early is easily seen.

For nine months of the year the ewes are on pasture and gleaning stubble fields, getting no other feed. I realize that farther north the winter feed would cost more. I figure the rent of pasture land at \$126 a year to pasture the ewes when not being fed in the barn.

### Lambs Need Warm Barn

During the three months the ewes are in the barn the cost of feeding naturally is higher. I cannot tell exactly how much it costs to feed the ewes alone, because the feed is placed in troughs and is consumed by both the lambs and ewes. The daily average ration during the ninety days consists of 120 pounds of grain mixture—five parts of corn and cob meal and one part of bran—with an occasional addition of a little oil meal, 100 pounds of alfalfa and 120 pounds of alfalfa hay. This would be 30,600 pounds of feed (grain mixture and hay) for the entire period. Valuing this feed at a cent a pound, it would cost \$306 to feed the ewes and lambs.

For the sake of quickly figuring the costs, let us assume that half of this feed was consumed by the lambs, making the cost of the grain for the ewes \$1.53 a head. This amount, plus the \$126 for pasture, makes the total feed cost per ewe per year, \$3.70. The wool clip was sufficient to pay for their feed and that of the bucks.

My lamb crop last year was over 100 per cent, but I raised a lamb for each ewe. From the time the lambs were two weeks old until the time of mar-

keting, they ate grain in addition to their mothers' milk. I did not wean them because, in the production of hothouse lambs, it is necessary that the lambs make rapid gains in order to be in good condition by the time the Easter market opens. It has been found that lambs do not make as rapid gains after being weaned as they do before. Then, too, this method of feeding grain with milk enables them to maintain their baby fat. If the baby or milk fat is lost, it takes much longer to fit the lambs.

On arriving at the market the lambs

While a warm barn is essential for the young lambs, it is by no means necessary to have artificial heat. I believe that the animals provide enough natural heat to keep themselves warm. I use no especially constructed barn, either. The barn I use is just a common everyday barn, built twenty-five years ago. When I started in this business I put a basement under it at a small cost. It is well lighted, and has fair ventilation, provided by windows on all sides of the basement. These windows open from the top, swinging downward. In this way I can open the windows and yet prevent drafts, because the air circulates about the ceiling before descending.

During the lambing period it is necessary to take special care that the lambs are not crushed by the ewes. For this purpose I have divided the basement into two main parts. When a ewe is ready to drop a lamb I have a system of panels by which I fence the ewe off in a corner, away from the rest of the sheep. When the lamb is strong enough I remove the panel and let the lamb run in with the rest of the ewes and lambs. This precaution has decreased the possibility of lambs being crushed, and consequently has increased the percentage of production.

There are many advantages in raising hothouse lambs. In the first place, the lambs come when the farmer is not very busy with other farm work—it helps him to distribute the cost of labor. The danger from parasites which attends the production of sheep is not great; in fact, none at all, for the lambs are indoors at all times. The ewes, however, are allowed to run at pasture during the day, but this would not affect the lambs.

The above figures are sufficient proof that the business is profitable for any farmer who contemplates starting in it. All things considered, this is as great as can be derived from any other kind of live stock produced on the farm.



These lambs ninety days old, ready for Easter market, returned \$7 per head over feed cost

were sorted into two drafts. One bunch, 40 head, weighed 57 pounds, and sold for 17 cents a pound; while the other batch, 18 head, averaged 84 pounds, and sold for 12½ cents. The return from the sale was \$576.60.

The following table shows the receipts and expenses involved in the production and marketing of the lambs:

RECEIPTS	
40 lambs, 2,280 lb at 17c...	\$387.60
18 lambs, 1,512 lb at 12½c...	189.00
	<b>\$576.60</b>
EXPENSES	
Feed, at \$1.53 a head.....	\$88.74
Commission and yardage....	8.70
Freight .....	7.50
Labor .....	76.00
	<b>180.94</b>
Net profit .....	<b>\$395.66</b>

My ewes are bred so that the lambs will be dropped between the first of December and the last of January. This provides sufficient time to get the lambs in good shape for the Easter market. It will not do to make the lambs too big, however. But in order to have them ready to market it is necessary to push them from the start.



Sample bunch of grade ewes purchased in 1911 as foundation stock. Lambs are dropped in December and January

### Drafting Farm Experience

By B. F. W. Thorpe

**T**HESE days when war has overturned so many well-planned and tested schedules, the ever-pressing need is experienced skill to reorganize and utilize all productive forces now remaining. In no great industry will well-tested skill be quite so scarce and indispensable as on American farms next season if the production mapped out for our farms is to be realized. For never before will there have been so many inexperienced farm hands employed whose unskilled labor can count for but little unless efficiently directed.

From what source can experienced farm skill be expected? There is one supply of ripe experience that is now practically going to waste. Nearly every hamlet, village, and town, and cities as well, have retired farmer residents whose exceptional skill in many instances enabled them to retire soon after middle life and give place to younger or less successful farmers. Some who retired thus have rapidly rusted out physically and mentally, but there are thousands of retired farmers who could furnish the most effective kind of help in directing untrained farm laborers with benefit to themselves in the betterment of health and the satisfaction that would result. There should be a systematic campaign to enlist the help of retired farmers.

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December 15, 1917

## What Christmas Means

COMES again Christmas. True, with the world at war, the glad season will not seem the same—not to us grown-ups, but to the children it is still a time for joy and gladness.

And Christmas, with its greetings and its gifts, its merriment and its make-believe, is for children. It is the festival of childhood, the sweetest of all the holidays, the one in which the best that is in our home life finds fullest expression. In fact, were there no children there would be no Christmas as we in America now celebrate it. Just in proportion as we are able to cast aside care, to banish from our thoughts all bitterness, and to kindle anew in our hearts the love and sympathy that were, are we able fully to enter into the spirit of the day.

What if the world is at war! Have not the children heard enough of it, and perchance will they not be compelled to give up enough without being denied the pleasures of the day? We may give up many things, but the children, let us hope, will still have Christmas.

Of all the customs that have come to us from the Old World there is none that has grown to mean so much as does Christmas, which every section of the country now thinks of as its best of all festivals. Many of the customs which are so intimately connected with the day were brought to America by the Dutch and English pioneers who settled in New York and other States on or near the Atlantic coast in the seventeenth and eighteenth centuries. To the Dutch children St. Nicholas' Day, originally celebrated on December 6th, was a time looked forward to with keenest anticipations. It was popularly believed that then good "Saint Nick" always had presents for "good little boys and girls," but that children who had been bad would receive only ashes and switches.

For many years the Dutch children, whose fathers and grandfathers had come to America, celebrated St. Nicholas' Day. In time, though, with the coming of large numbers of English-speaking peoples, the old English Christmas, celebrated on December 25th, grew in prominence and popularity. So in time the festivities of St. Nicholas' Day and Christmas Day were combined. In order, though, properly to understand and fully appreciate Christmas as we now know it in America, we must pause to consider the old Dutch and English customs.

"Sint Nikolaas' Day" is still observed in much the old-time manner in parts of Holland—or was until the war. After an excellent dinner, served between five and six o'clock, the living-room is cleared of furniture, and the children, and grown-ups as well, engage in play. This sport continues for some time, or until the presents are ready. Then what fun, what expectation, what sur-

prises! Following an old custom, the doorbell is rung for each gift as it is delivered to the happy recipient. This has to do with the generally accepted teaching that the gifts are not personal from one person to another, but that they are sent by "Sint Nikolaas." So there is genuine consternation and wonder when the presents are brought in by the servant whose duty it is to deliver them. Nobody knows who the gifts are from, so that there is no foolish trading of valuables—none of the "from Will to Mary" spirit as we too often see it in America.

After the children have had their fill of fun, of gingerbread and other holiday sweets, they are put to bed, and the older people continue the celebration, perhaps with a regular supper. In these celebrations the snow-white clay pipes, with stems of generous length, play a leading part.

The best of such a holiday observance is in the weeks of anticipation, in the joy of making ready the gifts—just as it must always be. Trading presents never made a beginning toward a real Christmas or a real St. Nicholas' Day.

In England there is a pretty custom known as "bringing home Christmas." By this is meant the gathering of greens to decorate churches, dwellings, public places, and even the streets.

dreamed they were almost beside themselves with joy.

Frequently the older negroes played tricks on each other, removing the presents and substituting a corn pone, switches, or ashes. On looking into his stocking the victim of the joke would probably exclaim, in the best-humored way: "I knows what niggah done gone done this heah, and I sho is gwine get eben wid him." After a hearty laugh, in which all joined, the real presents were then brought forth from where they had been hidden.

In many homes, especially in the country, Christmas is still observed in the fine old-fashioned manner. Last Christmas on a big corn-belt farm we attended a celebration such as each year marks the holiday season. On an immense Christmas tree there were presents for the more than one hundred people—men, women, and children, black and white—on the place. For not only are the hired laborers on this farm remembered, but so are all the members of each family represented. For several weeks in advance of Christmas this big-hearted farmer and his wife are busy selecting presents, for it is not a "prize-box collection" that Santa Claus distributes at their direction. Instead, the gifts are chosen to suit individual tastes, wishes, and needs. Big as is the undertaking,

## Fair Prices for Producers

HERBERT C. HOOVER, United States Food Administrator, is quoted as saying, in a recent interview, "It is necessary, in order to secure a large production, to maintain fair and remunerative prices to the producers."

At a time when so many apparently have a rather erroneous conception as to the position which the farmer now occupies, it is refreshing to read such a statement from one who is at present occupying so prominent a position. It is sincerely to be hoped that Mr. Hoover and his helpers will not fail to elaborate upon this point.

For any group of consumers to start a campaign to hammer down farm produce prices, or to lend aid to efforts which, in some quarters at least, have already been launched, would be a very serious mistake. Not only would such a propaganda, if successful, prove a decided injustice to the farmer, but it would also, in the end, work a serious hardship upon the consumers.

This one fact we might as well realize, once and for all: the prices of farm produce—whether meat, corn, poultry, milk, or potatoes—cannot consistently be lowered to any considerable extent until there is a gradual lowering of all prices, including shoes, machinery, and other manufactured products. The war has made abnormal times, and just so long as war conditions continue we may expect a continuance of high prices. The sensible course, then, to pursue, it would seem, is for those in authority and in places of leadership to make these facts plain to the public.

It is much easier to direct the course of a stream than to stop its flow. Today we are witnessing the workings of certain well-defined economic laws: the dollar of the present is a dollar of decreased purchasing power. If all business and all wages can be established upon this standard, nobody need suffer as a result.

On the other hand, with one part of the business conducted upon the new scale of values and another part upon the old scale, hardships—perhaps hunger—cannot be averted.

Instead of a campaign looking to the lowering of prices for food produced on American farms, the country stands in need of a concerted movement the objective of which would be to cause manufacturers and other large employers of labor to understand that it must be made possible for workmen to pay higher prices for food than have been paid in the past.

The fact remains that if the farmer is to continue to grow crops and to feed and breed stock he must get higher prices than in the past. The cost of production on the farms of the United States was never so great as now. Labor was never before so scarce. Thousands of farmers in the winter wheat belt seeded their crops this fall, doing all the work alone or with only the aid of their own families. That conditions next year, when comes time to put in a corn crop, will be infinitely worse seems certain.

The farmer cannot supply farm products cheaply except at a loss to himself. The one big question is whether or not he can supply them at any price and in volume sufficient to meet the demand.

Plainly, a concerted effort to lower food prices—the prices of farm produce—can result in no relief. Any effort along this line means taking hold of the wrong horn of the dilemma—if such it is. Patriotism, justice, and common sense demand that the present position of the farmer be made plain. If already, in some quarters, a mistake has been made by preaching impossible low prices for farm produce, the sooner such a mistake is corrected the better will it be for all concerned.

There is no getting away from the fact that normal prices can be restored only with the return of normal conditions.



In no section of the United States has Christmas been celebrated more enthusiastically or been more generally observed, especially in the rural districts, than in the South. In the "befo" the wah" days the coming of the joyous season was looked forward to with pleasure, not alone by "the folks in the big house," but by the dwellers in the cabins too.

If there was a Christmas tree up at "Marse Tom's" there were presents on it for all the black folks. And how all eyes sparkled, and how filled was the house with laughter and song! Stockings were sometimes hung up instead of having the gifts placed on a tree. At such times socks and stockings of many sizes and colors were hung up on Christmas eve, and when morning came none was empty. With faith the children looked forward to the coming of Old Santa, and often, for weeks in advance of the time for his visit, they played Christmas. This served to "key them up" for the real occasion, so that by the dawning of the day of which they had

we were assured by the buyers of the presents that, after all, the task is the very best part of their Christmas. To listen to the recitations and songs of these happy children, and to see how much joy the gifts and the "eats" gave, was indeed a pleasure.

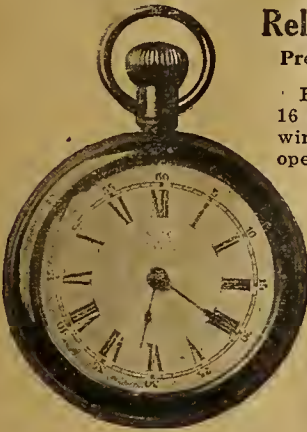
Memory takes us back to a farm home where on each Christmas eve stockings were hung around an old fireplace. Among the stockings was our own—and with what joy did we jump out of bed on Christmas morning and hasten to see, by the light of a roaring fire, what Santa had brought! That was a good many years ago. Our own little lad is now as old as we were then. At that old home, though, Christmas is still celebrated in the old way—and we are going back, just as we have always done.

Christmas is for children? Yes, to be sure it is—and at Christmas all of us may be children, at least in spirit. As to Santa Claus, of course there is such a person just as long as we believe there is, or as long as we enjoy aiding others in getting happiness from such a belief.



# GIVEN WITH YOUR OWN SUBSCRIPTION OR FOR SENDING IN A SMALL CLUB

A GREAT many readers are writing us for offers to club raisers. We offer below a number of exceptionally attractive premium articles, and offer them for small clubs of subscriptions to FARM AND FIRESIDE, or with your own new or renewal subscription for a small amount in cash above the regular subscription rate. We urge that you earn the article you desire by getting your friends to order FARM AND FIRESIDE at 25c a year. You collect the money and send it, together with names and addresses, to us. The premium will be sent by return mail, charges postpaid. Don't waste time; prices on premium merchandise are changing constantly; start getting up your club to-day. Your own subscription counts one toward any premium.



**Reliable Watch**  
Premium No. 762  
Has nickel-plated, 16 size, case; stem wind and stem set; open face, white enameled dial. A watch that will give satisfaction and wear for years. Given for NINE yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.30.



**Pistol Flashlight**  
Premium No. 985  
A great premium for boys. Is made to look like an automatic pistol. Complete with battery and mazda bulb. Given for SEVEN yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.25.

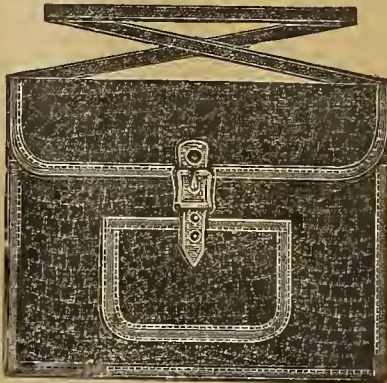
**Tubular Flashlight**  
Premium No. 986

Has a black fibre case with riveted contact button and caps. Case "non short-circuiting." Size 1 1/4 x 5 inches; complete with battery and mazda bulb. Given for SIX yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.00.



**School Bag**  
Premium No. 908

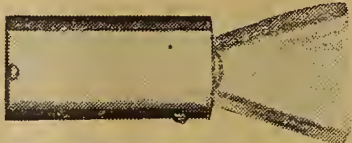
Just the thing for school boys or girls. Good quality oilcloth. Snap flap shoulder strap. Will hold several books conveniently. Given for TWO yearly subscriptions at 25c each, or with ONE 3-year subscription for 75c.



**Gold-Handled Shears**  
Premium No. 904

Eight inches long, handles plated with gold. A very handsome gift. Given for THREE yearly subscriptions at 25c each, or with ONE 3-year subscription for 75c.

**Nickel-Plated Flashlight**



Premium No. 906

A high-grade pocket light fitted with battery and mazda lamp. Given for FOUR yearly subscriptions at 25c each, or with ONE 3-year subscription for 80c.

**Nifty Pencil Box**  
Premium No. 771

A dandy gift for a boy or girl. An outfit of pencils, pens and eraser all packed in a neat leatherette case. Given for TWO yearly subscriptions at 25c each, or with one 3-year subscription for 65c.



**Sewing Companion**  
Premium No. 928-A

144 sewing articles in a neat leatherette case. Needles, bodkins, crochet hooks, etc. A handsome gift for a lady. Given for THREE yearly subscriptions at 25c each, or with ONE 3-year subscription for 75c.



**The Weatherometer**  
Premium No. 965

A practical instrument combining a barometer and thermometer, 4 1/2 inches wide, 13 inches long. range 20 degrees below to 120 degrees above. Given for TEN yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.35.



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Makes a lock-stitch with one thread and one operation. Given for THREE yearly subscriptions at 25c each or with ONE 3-year subscription for 75c.

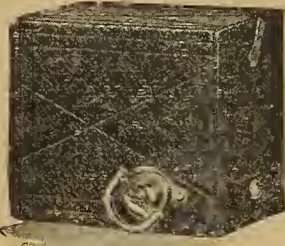


**Leather Bill Fold**  
Premium No. 916

Excellent quality leather, seven compartments, calendar and memo book. Given for THREE yearly subscriptions at 25c each, or with ONE 3-year subscription for 75c.

**High-Grade Camera**  
Premium No. 987

It's an Eastman, 00 Cartridge Premo. Makes pictures 1 1/4 x 1 1/4 inches, automatic shutter, excellent lens. Given for SIX yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.10.



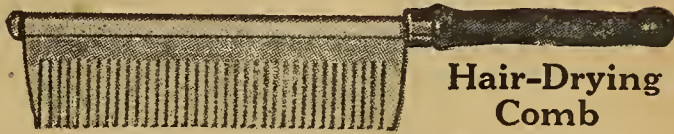
**High-Grade Razor**  
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Made of best material, 5/8 inch blade, hollow ground, honed and set all ready for use. Comes in push box. Guaranteed. Given for FOUR yearly subscriptions at 25c each, or with ONE 3-year subscription for 80c.



**Military Brushes**  
Premium No. 988

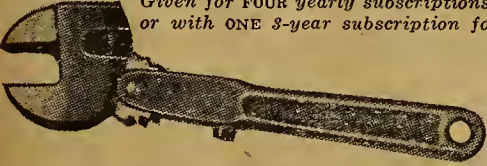
Pair of ebonized brushes. Bristles set in aluminum plate. Handsome gift for gentleman. Given for SIX yearly subscriptions at 25c each, or with ONE 3-year subscription for \$1.10.



**Hair-Drying Comb**

Premium No. 962

Made of aluminum. Dries hair in a few minutes. Full directions. Given for FIVE one-year subscriptions at 25c each, or with ONE 3-year subscription for \$1.00.



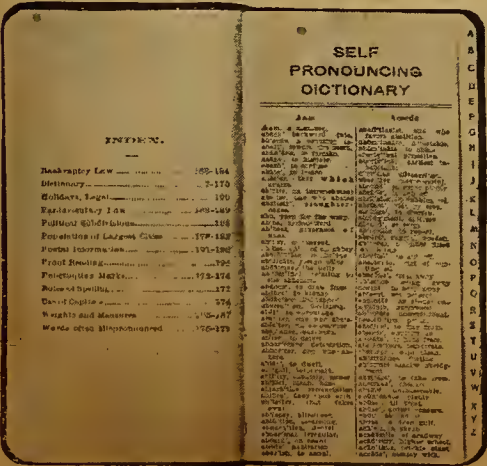
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An all-purpose wrench. Given for FOUR yearly subscriptions at 25c each, or with ONE 3-year subscription for 75c.



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Contains all words in common use. Vest pocket size. Handy, useful. Given for TWO subscriptions at 25c each, or with ONE 3-year subscription for 65c.

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# Our January Number

*A Chat about the Many Interesting Things that Will Appear in the First Issue of the New Farm and Fireside*

By THE EDITOR

**S**UPPOSE that you were severely wounded. That a piece of flying shrapnel had mangled your wrist and hand, that a German bullet had gone through your knee; suppose that tons of metal and high explosives were falling around you and the gray hordes of the enemy were closing in on you; suppose that your comrades had all fallen at your side: how would you feel? what would you do?

Ivan Rossiter knows, for that is exactly what happened to him on the battlefields of France. He tells about it in the January number of FARM AND FIRESIDE, and it is told so vividly that you forget for the time that you are in an easy chair by a glowing fire. You fight it over with him as you read. Your red blood courses faster. You are on the field of honor, fighting for human liberty, courageous, unafraid. But at last you are overcome. This is how he tells it:

... and just then two hideous, dirty, unshaven faces appeared over the edge of the shell hole. One of them muttered to us in German, which we did not understand. An officer approached us, waving a revolver in our faces. ...

But we cannot spare the space to tell more now, for in January we are printing it just as this plucky young Canadian has lived and written it.

## Borrowing Money from Uncle Sam

**T**HE farmer must succeed. The Government is going to see that he does not fail if long-term, low-rate interest will pull him through. But the Government must not lose money, and there are certain things that must be done to get the loan.

So many persons have written us about the Federal Farm Loan Act that we asked Frank R. Wilson down at Washington, D. C., to tell our readers the whole story. He has agreed, and next month we are publishing it under the title of "Borrowing Money from Uncle Sam." On this subject Mr. Wilson is high authority.

## The Booze Fighter

**A** MAN whom many of our readers know personally or by reputation is telling this story of his fight against booze. To see him to-day, happy, prosperous, and looked up to by all those who know him, it is impossible to believe that he was once a slave to whisky. And yet there was a time when everything was going down-hill with him, and failure stared him in the face. His realization of the grip the habit of solitary drinking had on him, and his determination to conquer it, make an intensely interesting story, which he calls "The Booze Fighter." It appears in the January number.

## In the Spy Net

**A** BRILLIANT young writer, Emel Parker, is the author of "In the Spy Net," a new four-part story woven about a plot against an American U-boat destroyer, which begins in the January number. Absorbingly interesting situations and baffling surprises hold the attention to the last sentence.

The good-looking heroine, struggling between love and patriotism, is one of the strongest and most appealing ever portrayed in the pages of FARM AND FIRESIDE. W. C. Dexter, whose illustrations have been so popular in the past, will interpret some of the tense situations in attractive drawings.

## Prosperity Through Planning

**U**LTIMATELY, farming is going to readjust itself, and particularly in the matter of labor. You hire a good man and keep him until the fall work is done, and then let him go. But you feed the horses all winter, keep-

ing them in idleness for the coming spring. A manufacturing business would fail under the same conditions.

The farmer must plan how to make money in the winter. It will take considerable planning, but planning—just that—and following out those plans will do the business. January is an ideal time to plan the year's work. D. S. Burch has written an article for the January issue wherein he deals at length with this very subject.

## "Just the Grippe"

**W**HILE every one is worrying about his friends and relatives who are in the army, and is wondering if a shell will strike them, it would be well to reflect that the number of lives which will be lost in the United States from la grippe alone will be greater



This is Ivan S. Rossiter in the uniform the Germans gave him to wear home when he was exchanged

than the loss of our expeditionary forces in France.

Yet la grippe continues to be accepted as a matter of course, a sort of a "josh" disease. A couple of weeks and you will be out and around again. But la grippe does take a tremendous toll of its victims. Doctor Lerrigo, who is one of America's good doctors, writes in the January number of FARM AND FIRESIDE how to prevent and how to handle cases of la grippe.

## Does it Pay to be Tight with Your Family?

**D**OES it pay to be tight with your family? Ben Bruce—but of course that is not his real name and we can't publish it—opens some of the musty closets of his life and brings out the skeletons. He has worked hard as a farmer all his life, and allowed no pleasures to come to his home.

Are you tight with your family? Do the children have confidences with their mother to which you, their father, are never invited? Do they stop talking freely when you come into the room, or would they come to you first if they were in trouble?

Here is a problem that is as big as any problem on the farm, the problem of being in touch with your family, of being a boy with

your boy. And now Ben Bruce, almost fifty years old, successful in money matters, finds that he has been the thief of his own happiness. You ought to read it.

## Selling War Horses

**O**UT at Miles City, Montana, there is a continuous wild-west show, with every actor a star performer, and the admission is free. There the Government is buying range horses for use in the army. Uncle Sam doesn't care about putting his boys on dangerous horses, so a crew of professional "bronco busters" ride them out first. In "Selling War Horses" Ruth M. Boyle tells very definitely what the U. S. Government demands in the horses they buy.

## Speeding Up Housework

**W**E KNOW our household readers are going to be interested in an article by Monica Kelly on "Speeding Up Housework," and we believe that they are going to do their housework in less time and with less work than before if they will follow Miss Kelly's observations. And, furthermore, after you have read this article you are going to wonder why you haven't been doing this very thing for years—it is so simple and easy to do.

## When You Build Your House

**W**HEN you build your house you will want to get all the conveniences, refinements, and necessities for as little money as possible. W. F. Miller, an architect, has drawn plans for a house that can be built for \$3,500 at present prices, and it has everything in it that you want. Furnace heat, wired for electricity, two big fireplaces, a built-in buffet, a back stairs, bathroom, seven big rooms in all, and an attic that could be remodeled into rooms at a slight additional expense—these are the things Mr. Miller has planned for your house when you build.

## Cover Page in Colors

**A**LONG with other improvements that we are starting the first of the year is our series of paintings, in colors, for the cover pages. The first one, which will be on the cover of the next issue, is by Herman Pfeifer, a well-known artist whose paintings have been used as covers for many of the popular magazines.

Indeed we consider that we are extremely fortunate in being able to give our readers the best that the market has, and we feel that our readers will appreciate our efforts in giving them an unusually interesting and very good-looking paper.

## How to Pick Gilt-Edged Investments

**F**RANKLY, we're proud of our editorial page, because so many of our readers have written us they like it so well. In the new FARM AND FIRESIDE it will continue to be a sort of forum where we may express opinions as they come to us. For instance, in the next issue we are discussing editorially the problem of investments and how to gain information that may be had concerning them.

Some of the other editorials in January are: The Producers and Fixed Prices; One Fine Thing from the War; Uncle Sam's Land Banks are Busy; If You Sell the Scrap Iron.

## "Runaway Julietta" Concluded in January

**R**UNAWAY JULIETTA, the fascinating serial by Arthur Henry Gooden, which our readers have been following for three months, will be concluded in the January issue. Julietta's capacity for unusual adventure increases rather than diminishes as the story goes on, and the last chapter is crammed with tense situations and emotional crises. Reading it makes one agree heartily with the girl who wrote us recently that Julietta ought to be in the movies.





## Dairying

### Feeding Grain to Dry Cows

By H. A. Marmer

OUR county is one of the important milk-producing centers furnishing milk to the city of Washington. Yet it is quite common to allow dry cows to go without any grain. In summer they are kept out on pasture, and in winter they are fed on hay and corn fodder.

An experience in my herd, however, has convinced me that it pays, and pays well, to feed grain to dry cows—even at the present high price of grain.

In November, 1916, I bought an ordinary grade cow from one of my neighbors. She had been fresh for about two months with her fourth calf, and was giving 18 pounds of milk a day. Her owner told me that she had been out on pasture and received no grain while dry, and that she had given three gallons, or about 26 pounds, of milk a day when she was fresh.

As feed was high last winter, I fed grain rather sparingly; but when she went dry in June she received a small amount of grain along with the other cows—to keep her quiet, more than for any other reason. In August she gave a fine heifer calf, and began milking 13 pounds daily. Two months after calving—being in the same stage of lactation as when I bought her—she was giving 24 pounds, and was still going strong.

She was dry a little less than two months, and during this time she consumed not over 120 pounds of grain, being fed at the rate of about two pounds daily. At \$52 a ton for the feed, it cost a little over \$30. But during the first two months after calving she gave on the average about 6½ pounds of milk more per day than she had given during her previous lactation. At a net price of \$2.60 per hundred for the milk, the increase in milk was worth a little over \$10 for the two months. Beginning with the first of October, when the net price of milk is about \$3.50 per hundred, the showing will be still better.

This increase in milk was due to the grain fed while the cow was dry, because her former owner and I manage our herds very much alike, even to feeding the same brand of dairy feed.

### Uniform Salting

By Chas. Edw. Richardson

WHEN I began to develop a fancy trade for my butter, I soon learned that while customers were willing to pay me a good price I must at all times give them butter that had real quality. One of the things that helped maintain that was uniformity. I had certain methods for making butter that were correct, and I always used these, believing that the product would be uniform. But I gradually found that although I used the standard method in salting my butter it did not always have the same degree of saltiness.

The usual way of salting is to take the butter in granule form from the churn, after it has been washed, and place it on the butter worker. It should be spread out and the estimated amount

of salt sprinkled over it. The general amount is one ounce or a little more to each pound of finished butter. Of course, the butter granules must be weighed, which is harder to do than if the butter is in a large lump. I have an idea that most butter makers add salt a good deal by guess, tasting of it as they work it. Most methods that I have read advise tasting, which is rather uncertain and not always sanitary.

Then there are some who work the butter by hand, but of course such a method cannot be considered in making high-grade butter. How many times have we all observed in farm butter little white streaks where the salt has not been worked in properly, even with a butter worker! Frequently the butter has been overworked until it has a gummy texture from too little water content. This is a very common condition found in much otherwise good farm butter. The reason is that when the salt has been worked in sufficiently the moisture has been worked out. Plenty of moisture incorporated in the butter gives the butter a clean, waxy texture.

### Dissolve the Salt

To eliminate guesswork in salting I figure the amount of cream necessary to make a pound of finished butter. In my case it requires 45 ounces. I weigh the cream that I am going to churn, and multiply the number in pounds by 16, and that gives me the weight in ounces. Then I divide by 45, and the quotient tells me the number of pounds of butter I shall make; that is, of course, if the churning and other things are correctly carried out.

Now, the secret of uniform salting, butter free from white streaks, and a nice, palatable water content, I have found easy and possible by dissolving most of the salt, and salting the butter in the salt water, in the churn. I have found that it takes rather more salt that way than the other method (about three ounces to the pound of butter), but the certainty of the results more than pays for the slight waste. After dissolving as much salt as possible in a quantity of water equal to about half the amount of buttermilk drawn off, I let it stand for twenty minutes or more, while I am washing the butter granules in the churn. The salt should be sifted into the water, and any dirt found floating on the surface should be removed.

### Now the Final Gathering

Then I spread the butter granules around the bottom of the churn, and sprinkle the salt and water over the butter. The temperature of this salt-and-water mixture should be the same as the last wash water. I then churn the contents of the churn until the butter is in a large mass, and in that shape it is easily handled and can be placed on the worker when I am ready. But it does no harm to let it stay in the salt water in the churn for a while. When the butter is taken out and put on the worker, there is more or less salt and water left in the churn, but there is incorporated in every part of the butter salt that is thoroughly dissolved, and also the correct amount in every part of it.

All that now needs to be done is to work out just enough of the excess water to produce the waxy consistency so pronounced in good butter; and I now have a thoroughly uniform article, without any guesswork.

The creamery buttermaker does not need to be told how to do it; he understands all of the kinks of the trade. But lack of uniformity in salting is one of the weaknesses of the average farm buttermaker, and if that can be overcome the customer and the farmer will both be benefited.

## Get Eggs

# DR. HESS POULTRY PAN-A-CE-A

This is money-making time. Eggs are high—you want eggs to sell. Get your hens in top-notch laying condition. Feed Pan-a-ce-a to give them good health and good feeling. It contains ingredients which act on the dormant egg organs—liven them up and makes them active. It does give hens the laying disposition. That's why you should feed Pan-a-ce-a regularly during the winter months. Pan-a-ce-a has stood the test of nearly 25 years. Dealers are authorized to return your money if it does not do what we claim. Packages, 25c, 60c and \$1.25. 25-lb. pail, \$2.50; 100-lb. drum, \$9.00. Except in the far West and Canada.

DR. HESS & CLARK, Ashland, Ohio

## \$50 FOR AN IDEA!

### BOYS AND GIRLS: CAN YOU ANSWER?

Why should the picture of President Wilson hang in every American home? \$50.00 will be awarded in prizes to Boys and Girls for the best idea telling why. We intend to give away a number of beautiful pictures of President Wilson to new subscribers of *Farm and Fireside*. We want to find bright boys and girls to help us to introduce our new offer by GIVING AWAY these pictures to their closest friends. It occurred to us that the best way to discover bright boys and girls would be to offer prizes for the best idea. What idea would you give?

#### 1st Prize \$25.00

A first prize of \$25.00 will be awarded for the idea which the judges decide is best. The second prize will be \$10.00. The third prize, \$5.00. The next ten prizes are for \$1.00 each. The contest will close March 1st, and prizes will be awarded as soon afterward as practicable.

#### 4 Splendid Bicycles Given Away

Just as soon as you send us your answer, we will send you several beautiful pictures of President Wilson. These are done in rich sepia tone and his great address to Congress comes with each one. We explain to you how you can earn watches, games, moving-picture machines, etc., by spending a couple of hours calling on the neighbors and GIVING AWAY these pictures. Besides that, we are going to give away, EXTRA, 4 of the finest bicycles that we could find. These bicycles are given away IN ADDITION to the prizes that you earn. They will be given to the boys and girls holding the most "bicycle tickets." Write at once—double the number of "bicycle tickets" given during the next few days. 10 "bicycle tickets" given if you write at once. We send you complete instructions and a big illustrated circular telling of prizes that can be earned by spending a little time visiting among your closest friends.

#### Enclose Two 3c Stamps—They Will Be Returned

Enclose 6 cents in stamps as a guarantee of good faith. The six cents will be returned to you as soon as you do the little work we ask of you. We simply require this small deposit to help protect us from those who ask for pictures with no intention of doing what we ask. Send your answer and stamps to THE BICYCLE MAN, FARM AND FIRESIDE, SPRINGFIELD, OHIO

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Washington, the home of the *Pathfinder*, is the nerve-center of civilization; history is being made at this world capital. The *Pathfinder's* illustrated weekly review gives you a clear, impartial and correct diagnosis of public affairs during these strenuous, epoch-making days.

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Can you afford to waste a peck or more out of every bushel of grain you feed?

Sucrene feeds offer patriotic stock feeders the opportunity to heed the world's cry for more food, and do their part to prevent the waste of whole grain in stock feeding.

**Sucrene Feeds are more easily and more completely digested than whole grain**, because they are composed of a variety of grains and grain-products ground to proper fineness for easy assimilation. The variety of nutrients they contain, correctly proportioned, meets every need of the animal for increased productiveness and body maintenance.

Every dollar you invest in Sucrene Feeds comes back to you with big interest added. Every day's ration produces adequate results in milk, beef, pork, veal or poultry products.

## Sucrene Dairy Feed Makes Money Five Ways

It brings up the milk yield. Cuts down the feed bill. Keeps cows in better health. Saves you trouble and expense of mixing—saves your grain.

Sucrene Dairy Feed is composed of molasses, cottonseed meal, corn gluten feed, ground and bolted grain screenings, clipped off by-product, distillers' dried grains and solubles, palm kernel meal, calcium carbonate, and a little salt. Guaranteed analysis: 16½% protein, 3½% fat, 46% carbohydrates, 14% fibre.

### All Cows Crave Sucrene Dairy Feed

because it is sweet smelling, palatable, soothing to their digestive systems—keeps them in better health and spints. Although molasses is but one of the eight nutrients in Sucrene Dairy Feed, it is a very important one. Prof. H. J. Patterson of Pennsylvania State Agricultural College, says in Bulletin No. 117: "Feeding tests show that the addition of molasses to a ration has a tendency to increase the digestibility of both grain and hay."

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### Flying Start for Potatoes

By F. E. Brimmer

**O**FTEN potatoes planted in April will not come up any earlier than those planted a month or six weeks later. Meanwhile the first seed does not retain the virile strength of the later planted ones, because of the long wait before germination. The result is discouraging to truck farmers who want to get their spuds started early to get them ready for fancy prices.

I have found potatoes are quickly started by the following means: A trench about 10 inches deep is dug in well-drained soil, the bottom being loosened so that the soil is mellow. In the trench, straw is laid so that when packed down it has a depth of an inch or two. Next drop the seed at the desired distances apart and leave it lying in the trench, uncovered. The larger seed is better for use in getting a quick, early crop. The sun has free opportunity to shine on the seed, when it soon begins to start sprouts. As the roots begin to form, a little dirt is drawn in around the seed. The plant will finally reach the top of the ground level, and the trench can then be filled in—but not before. Potatoes planted in this way will not easily freeze, because they are protected by being lower than the surface of the ground, and should there be danger of freezing it is not much trouble to cover the furrows lightly with straw until the cold wave passes.

### Top-Notch Strawberries

By W. A. Graham

**"NOTHING succeeds like success"** holds true in the growing of strawberries that will sell themselves. I have demonstrated to my own satisfaction that after one has grown a plot of strawberries which causes passers-by to stop and wonder how such a crop can be grown, he never needs lack for customers for any subsequent crops so long as he keeps his fruit up to a high standard in quality and appearance and plays fair in selling.

I consider it a shameful neglect that so many farmers and suburban dwellers fail to grow a family supply of high-quality strawberries—the task is so small compared to the satisfaction that this appetizing product furnishes.

For a supply sufficient for a good-sized family and some to sell to local customers, my choice is the "hill system." Here is how I handle my plot of 12 rows, 60 feet long, rowed 30 inches apart, plants set 18 inches between hills:

After setting the plants in May in well-prepared soil, made very rich, I give them intensive and practically level cultivation until fall. No runners are allowed to take root, they being regularly clipped off. A piece of sheet steel, about six inches wide, formed into a hoop about 14 or 15 inches in diameter, and to which is fastened an upright handle, furnishes an excellent tool to clip the runners rapidly. The bottom



Wouldn't you like to be a squirrel living near a "paper-shell" almond tree like this? This nut is a money-maker in California under right conditions

edge of the hoop is made a little larger than the top, to prevent the soil from sticking in the hoop. The bottom edge of the hoop is also kept filed to a sharp cutting edge. Handled as described, the plants get to be giants in development and vigor, and in the spring following they send out an astonishing number of fruit-bearing stems. Then, if an abundance of plant food is present and conditions are right, the yield is a large quantity of high-quality berries.

I find winter protection has much to do with successful strawberry-raising. I cover my entire berry plot with straw to the depth of about three inches after it settles. In the spring, when the growth commences, I remove most of the straw directly over each hill, and leave the rest undisturbed to act as a mulch to retain moisture and prevent weed growth; also, the heavy clusters of berries rest on the straw, and are kept from the dirt and grit that otherwise injures the appearance and quality of the fruit.

My little plot of not over one twentieth of an acre yields us from 12 to 15 bushels of fancy berries in an average season, and half of the crop sold to customers who come after them more than pays for all labor and cost of growing them. My recommendation is to get into the strawberry-growing game next spring without fail.

### Bird Life Being Banished

**T**HE importance of conserving bird life (with a few varieties excepted) on our farms is now much better understood than formerly. But farm owners are still few who realize how indispensable is a regular supply of wild fruits and berries as a supplementary source of food in addition to insects to tide the birds over periods when they require a better balanced diet than insects furnish.

Among some of the fruits and berries birds depend on are mulberries, sumac, dogwood, pokeberry, service berry, wild grape, and weed seed galore. The progressive(?) farmer now clears out all these wild trees, shrubs, and vines from fence rows, pastures, and woodlots, and nothing is furnished in attractive bird food to take their place. The result is that birds forsake those farms and go where they can find a balanced diet. Not only is their food supply lost, but the shrubs and trees which many birds prefer to nest in are gone, making a double cause for their going elsewhere.

Reduced to a practical basis, it becomes clear that if we clean our premises of these natural foods and nesting places of birds we must stand ready to hold in check the ever-multiplying hordes of insects that prey on our orchards, gardens, and crops generally. Many of these wild fruits and berry-growing trees, shrubs, and vines, can be formed into attractive hedges if kept within bounds by proper care and attention. Why not allow them to grow along stationary pasture and woodlot fences, and thus hold the attractive and utility qualities furnished by bird life?

### Watch Out for Clingers

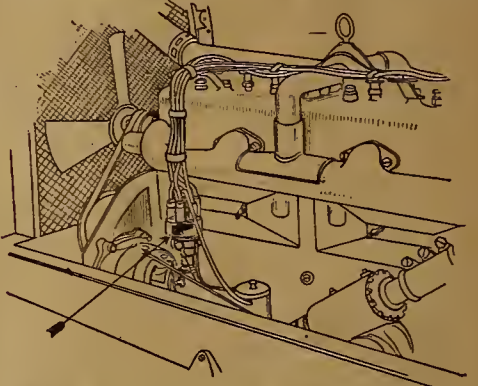
**I**T IS not enough to destroy all of the insect-laden and fungus-disease-infected fruit that drops before or during fruit harvest by feeding same to the hogs, sheep, or other stock. There are quite often dried-up, diseased fruits that cling to the branches, for weeks after harvest-time, which carry the spores (germs) of disease over until spring and then scatter them broadcast by wind, insects, and birds. There is just as much in preventing trouble as curing it.



### Lock Your Car

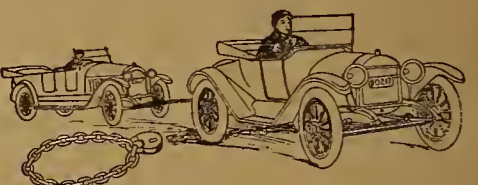
By W. V. Relma

**A** GREAT many cars are stolen due to the carelessness of the owners. Some owners will leave a car standing for several minutes unwatched and with the motor running. A passing thief can jump in and be far away before the owner can begin pursuit. Other owners leave cars standing at the curb with



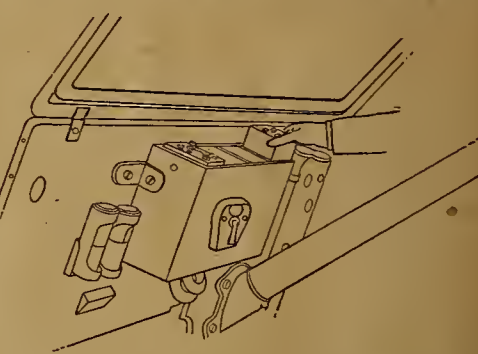
Removing the rotor from the distributor box disconnects the ignition system

everything in starting position. All cars are provided with keys to be removed from the ignition system which will prevent the motor from being started unless a similar key is used or the ignition wires are tampered with. But such duplicate keys can be easily obtained.



Two auto thieves working together may tow a car away. Prevent this by locking a wheel

In some of the modern types of motors, with the popular distributor system of ignition, the removal of the rotor from the box will usually prove effective. The possible thief might not



The removal of several coils in some types of cars is another method of protection

have a similar one in his pocket; in fact, he would be very unlikely to have. This part is shown by the arrow in the first illustration.

Two enterprising thieves working together sometimes tow a car away as shown in the second sketch. A heavy chain with a large brass lock (iron is too easily cracked) is good protection against such efforts. Chain the front wheel to the axle or fender brace.

The type of car which uses coils in the ignition can be pretty well protected by the removal of two or more coil units as shown in the third sketch. A coil usually weighs a couple of pounds, and it is not likely that the enterprising crook would have over five or six of these concealed about his person.

### Removing Carbon Deposits

By B. H. Wike

**T**O ANYONE who has had experience with a carbonized automobile motor it will be evident at once that he knows the presence of the carbon in there has much to do with the motor's performance. The carbon knock, or "pinking," is one indication of its presence, and the lack of power at open throttle is another. The carbon deposit within becomes heated and fires the charges of gas before time. This means a lowering



of power. A great many do not seem to know just why this carbon gets there, but there are several reasons, some of which the owner can not help. A bad plug will, before correction, often allow oil to be pumped up and moisten the explosion chamber, and this oil will eventually be dried from heat, and form a carbon crust on the surface. Too much oil in the crank case is also conducive to carbon formation, likewise, bad gasoline or fuel; and though good grades of gasoline will retard the formation, carbon will sometimes gather and need removal.

There are all sorts of plans to remove carbon, but it seems the oxygen process is favored by more first-class garages than any other. It is accomplished by the removal of the spark plug and then introducing to the explosion chamber the oxygen gas which is ignited by a match. So long as there is any carbon within, combustion will be evident; but as soon as the last particle of carbon is consumed the flame goes out. The two valves of each cylinder must be closed while this is being done, else there is danger of fire by the flame creeping down the intake manifold to the carburetor; otherwise there is no danger accompanying the cleaning out of carbon with the oxygen flame. After burning, each cylinder should have some lubricating oil introduced through the spark plug hole and squirted round the sides of the cylinders. If the compression in one or more cylinders is bad, it is well to remove the cause by either grinding the valves or by refitting new piston rings.

### Steam Removes Carbon

To those who care to make some investigation of the subject of carbon removal, there is a valuable field open in the way of installing a device on the car by which live steam can be sent into the explosion chamber. Steam is now being regarded as a valuable aid in tearing down a carbon deposit within gasoline motors, and as the cost of installing such a device is the only cost, it seems that there should be more effort toward the use of such. Everybody who has experienced it knows how much smoother a gas engine goes at night or on rainy days on account of the heavy atmosphere. This damp air goes into the carburetor, and so is valuable, as experience has already proved. The use of such a device would not be necessary day in and day out, but only when it is known or suspected carbon is forming. The use of it, then, for two or three days would undoubtedly do all the oxygen flame or other methods could do, and would have the added advantage of costing nothing except the water used in the little tank to create steam and the little time it takes for attention; and the car can be run all the time too.

### Hauls Bulky Loads

By Everett Hall

AN AUTOMOBILE is by the nature of its construction unable to carry bulky loads unless provided with a special body. But the owner of the car part of which appears in the picture uses it successfully for hauling hay—about half a ton at a load.

The trailer on which the hay is loaded is strongly made and has roller bearings. Counting investment, depreciation, tires, and the extra gasoline needed, the total cost of running the trailer loaded to full capacity is about 1½ cents a mile.

One of the chief faults of trailers is the inertia that has to be overcome in starting and stopping. In the starting it is an easy matter to ease the clutch in and start off slowly, but stopping often has to be done instantly. It is possible to put brake bands on the trailer, the same as there are on the car. The tongue of the trailer is fastened to the brakes so that when the car starts



In pulling a half-ton load, the gasoline consumption of the car is increased by about one seventh

the tongue moves out a little and releases the brakes, but when a stop is made the inertia of the trailer pushes the tongue in and clamps on the brakes.



## Live Stock

### Increasing Pork Supply

By James Blaine

WHEN hogs are ready for market they yield more meat proportionately than any other animal. They return more profit than other animals because they utilize the feed more thoroughly. One bushel of corn without supplement will yield 10 pounds of pork under ordinary farm conditions, and these 10 pounds of pork will feed more human beings than the same amount of any other meat. Hogs are developed primarily to consume concentrated foods.

The man who stays with the hogs year in and year out will prosper in the hog business. This will give him a most intelligent system on which to build a live-stock industry. The hog will be the market for his farm produce.

He can buy concentrates required and make necessary supplements. He can use what skim milk and buttermilk he has on the farm and purchase tankage, meat meal, and linseed meal. Corn and skim milk are almost a complete ration. No matter what ration is used, hogs will do better if a little skim milk is added. If milk is not available, buttermilk, provided it is not adulterated, may be used.

Tankage and meat meal are the best substitutes for milk. There is danger if too much tankage is fed. One-fourth or

without hurting the pig. Plenty of sunshine and exercise are essential, and as soon as possible the pigs should be pastured. Unless a little blood meal is fed, rye pasture tends to scour small pigs. They should be provided with a small trough where they may secure additional feed. The trough must be kept clean or it will become a source of danger.

When the pigs are three weeks old and have learned to eat, it is well to give them access to another pen in which a small trough is kept. Middlings stirred into skim milk may then be fed to them. The quantity of middlings can be gradually increased as the pigs grow older. If an extra pen cannot be provided, the sow may be shut out of the pen in which the pigs are being fed. If possible, the pigs should be taught to nibble at sugar beets or mangels.

The only difference in the development of pure-bred and market hogs is one of business. It takes more capital, time, and care to handle pure-bred stock than grades. It is better to start with the grades and learn how to breed, feed, and manage them properly before starting to raise pure-bred stock.

### Keeping Fresh Meat on the Farm

FREEZING and packing meat in snow are the best two methods of keeping fresh meat on the farm. Fresh meat is more nutritious than salted or cured meats.

Snow packing is a better way of keeping meat than freezing. The carcass should be cut into steaks, roasts, and boiling pieces. All trimming for the table should be done before allowing the meat to freeze. Be sure that the meat is frozen solid before packing, for then it may be kept through the winter unless the weather is unusually warm.

Lay each piece out to freeze separately where it will not come into contact with other meat. Use a box large enough to hold it all, and put a layer of dry snow at the bottom. When the meat



The man who stays in the hog business permanently will prosper because hogs return more profit than any other animal

one-third pound of tankage fed daily to the hogs individually is a profitable way of feeding. Economy must always be considered.

Shorts is one of the standard feeds. In some places corn is best replaced with milo or kafir. The grain sorghums will give almost as good results as corn. These grains represent 90 per cent of the corn value.

The thrift and vigor of early pigs depend upon the quantity and quality of feed consumed by the brood sow and the sanitary conditions under which she is kept before farrowing and up to weaning time. After farrowing, the mother should not be disturbed for twenty-four hours, except to give her an occasional drink of water. No dry feed should be given on this day. The second day she should be given very light feed. The amount of feed should be gradually increased as the pigs grow. With a young sow the feed should be increased so that she will be on regular ration in two weeks from farrowing time.

As soon as possible the pigs should be made to suck. If they are weak or the pen is cold, they should have an early drink of their mother's milk. If they are strong, lively, and comfortable, they may wait until all of the pigs are born.

An apparently lifeless pig may sometimes be revived if the attendant opens the pig's mouth and blows into it. This must be done as soon as the pig is born. A chilled pig may be revived by immersing it up to its neck in water heated to 98 degrees. It should then be rubbed dry, and induced to suck if possible.

The pig's tusks should be clipped off before they are twenty-four hours old. This may be done with a pair of pincers

is frozen put in a layer, packing it so that no two pieces touch. Cover this with a layer of snow, and lay alternate layers of snow and meat until the box is filled. Set the box in an outside shed where it will not be subject to sudden changes of temperature.

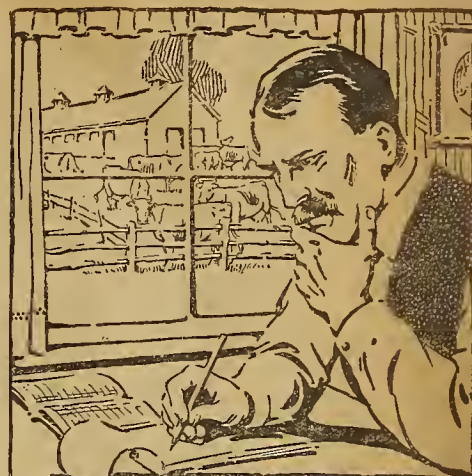
For convenience in getting the meat when wanted it is well to pack the steaks in one section or end of the box, and the roasts and stews in the other. It will not be necessary to disturb any of the meat except in the section which contains the desired piece of fresh, frozen meat. Always use dry snow in packing.

### Care of Ewes

EWES which are in poor condition must be sorted out and given a little extra feed and care. When the flock has not been properly cared for during the winter, the lambs are often too weak to stand, and unless given immediate care will become chilled and die.

Pens four feet square should be provided for the ewes at lambing time. These protect the young lambs from the rest of the flock and keep them from becoming separated from their mothers. If the attendant sees that the young lamb gets up and nurses by the time it is fifteen or twenty minutes old there will be little need of giving it further attention.

Twins or triplets are not uncommon, and the ewe sometimes refuses to own the weakest one. In case of twins, if the stronger lamb is removed for an hour or two the ewe will turn her attention to the other lamb, and when the stronger one is put back she will own them both.



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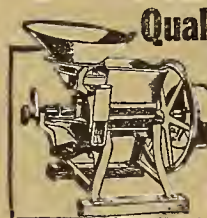
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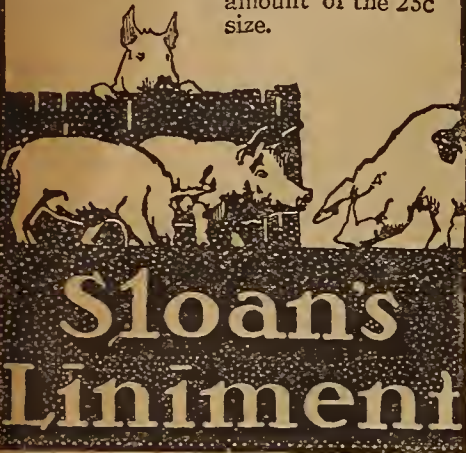


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## Poultry-Raising

### Cull and Cull Again

By Robert L. Winters

**JUST** because you culled your pullets at the age of five or six months is no reason why a second culling is not necessary. Also, a culling of the yearling hens, to determine which should have a right to hold over for breeders, is equally important. That these statements are good poultry gospel I have proved again and again.

Pullets of the smaller breeds, and even Rocks, Reds, and Wyandottes, if well fed and properly housed and handled, should be laying when six months old, or soon after. Any well-raised pullet that delays laying longer than six and a half to seven months from the shell, seldom will make a profitable egg producer.

The profitable yearling hens to hold over are the ones that commenced laying comparatively young (not too young, before being well-matured), and continued with but few and brief interruptions for ten or eleven months before molting. The productive layer will then have a ragged, toil-worn condition of plumage, toe nails worn to stumps, and shanks bereft of their color. But, in spite of her disreputable appearance, the hen that has laid heavily will still wear a bright, velvety comb and head furnishings, and exhibit plenty of hustle and life even up to time the molt begins. The hens laying steadily eleven and twelve months in their pullet year before molting are treasures, and are worth keeping for breeders as long as they continue vigorous and their eggs prove fertile.

If the weeding out of loafing hens has been neglected, delay no longer. Slackers have no business consuming feed at present prices.

### Warring on English Sparrows

By F. G. Heaton

**SUNFLOWER** seeds are expensive to buy for poultry feed. Last summer I grew three rows, each 150 feet long, besides a small patch planted in a corner of the poultry yard. The rows were planted around three sides of the garden, and took up very little space, while the seed heads produced furnished several bushels of seed. The variety I planted is called Giant Russian. The stalks, properly grown, reach a height of 7 to 9 feet, and the heads are frequently 15 to 18 inches in diameter. As soon as the seeds began to ripen, however, sparrows swooped down on them, and were in a fair way to take the entire crop. The writer tried putting mosquito-netting bags over a number of the sunflower heads, but found this too expensive and entirely too much labor. Paper bags with dried peas inside, although they worked like a charm in protecting fruit trees from pillaging birds, failed to frighten the sparrows away from the sunflowers. The use of a shotgun was out of the question, as one might as well allow the birds to get the seeds as to tear the seed heads and plants to pieces with shot. A .22-caliber rifle and a couple of boxes of .22-caliber shells, however, solved the problem.

Sparrows are intelligent creatures, and after they had been shot at occasionally for three or four days they deserted the sunflowers absolutely, and also forsook the poultry yards, where they had been more or less of a pest all summer. Fifty or more of the birds were shot, and probably a good many were injured and got away to tell their fellows their experience. In order that there might be no waste, the bodies of the little victims of that .22-caliber weapon were run through a bone cutter and fed to the fowls.

**EDITOR'S NOTE:** Our correspondent's experience is still another "straw" showing the pressing need of an automatic opening and closing mash-feed hopper so constructed that the weight of the birds on the runboard will raise the lid and the lid's weight will close it when not occupied.

### Marketing Poultry Manure

**ONE** up-to-date New England egg farm that I recently visited considers its poultry manure just as much a henry product as eggs, and markets it as carefully. A charge is made of \$1.25 a barrel, delivered, or \$1 at the farm. Most of the manure is delivered. This farm buys grain in large lots, doing its own hauling from the cars, and as far as possible poultry manure is delivered when the outfit goes to the tracks for grain. Purchasers use the manure principally for fertilizing their home grounds. They put a high value on it, as it is rich in nitrogen and quickly shows effect.

Poultry manure can be marketed advantageously for cash practically everywhere if some planning is done to that end. Some places will pay a heavier charge than \$1.25 a barrel. Purchasers are usually not hard to suit about the condition of the manure. In country districts fruit growers are good prospective buyers.

Poultry litter also has a definite value on the farm mentioned. When straw litter is ready for removal from the pen, it is rich in fertilizing elements. This farm lets a market gardener have it in exchange for sand. The gardener, as a part of the bargain cleans out the litter and puts in the sand.

Sawdust is used as an absorbent on the dropping boards, which are cleaned about once a fortnight. A handy implement used in cleaning is a floor chisel costing 50 cents. The manure is stored beneath a carriage shed in the cheapest second-hand barrels obtainable. When manure is delivered, the barrels are usually brought back for filling a second time, as the manure buyer generally has no use for them.

### Speed Up the Egg Machines

**THOUSANDS** of hens are eating high-priced feeds and loafing, and will continue to loaf until spring, simply because they are being fed no animal food in their rations. These hens, even if mature and are being fed a variety of grains, green feed, fresh water, and housed in comfortable quarters, will lay few if any eggs until late winter, unless they are stimulated with animal food.

About 10 per cent of the entire ration should be meat scrap, fresh ground green bone, or as much skim milk as the hens will drink.

If your hens are loafing see to it that they are kept at work scratching much of the time every day in deep litter for mixed scratch grains. Then provide a dry mash of equal parts by weight of wheat bran, wheat middlings, corn meal, and meat scrap, also sprouted oats or some other green feed like cabbage, stock beets, or silage. Do not forget oyster shell, grit, and fresh water: then watch the hens get into the laying game.

## The Joys of Days Undawned

[CONTINUED FROM PAGE 3]

priest who would have power with God, a king who would rule the world in righteousness. "He is coming, he has been promised, he will come," they said to one another as they waited in the darkness, looking for the dawn. This expectation of a Messiah lies like a beam of light across the centuries which lead up to the manger in Bethlehem.

At last a child was born. He grew up in Nazareth. He taught in the streets of Capernaum and Jerusalem. Men were amazed by what he did. Even his enemies confessed that no other man had ever so spoken. So mighty was he in his influence over the people that the rulers feared him, and put him to death. But after his crucifixion he was mightier still, and through nineteen centuries his fame and power have been constantly expanding, until to-day his name is above every name, and no prophecy seems more likely to be fulfilled than the declaration of St. Paul that every knee will some day bow and every tongue confess that Jesus Christ is Lord to the glory of God the Father. Already half the world celebrates his birthday, and empires of the distant East are learning to exclaim, "Thanks be unto God for his unspeakable gift."

### Faith the Key to Success

Christmas, then, is the day which stamps with Heaven's approval the heart's habit of looking forward. It encourages us to expect beautiful fulfillments of our highest dreams. It justifies us in extending the scope of our holiest expectations. It makes it easy to believe that what the heart really needs the heart which is obedient will some day certainly receive. Asking, and seeking, and knocking—this is the sane and wholesome attitude of the soul. The universe makes response to those who, unsatisfied with all that has thus far been, work and wait for a fuller revelation of the divine power and goodness. When a man or woman says, "I have nothing to look forward to," he or she has lost step with the company of those who have learned the secret of successful living. We do not see life truly unless we see it great. Our eyes deceive us if we do not see to-morrow greater than to-day. The world is, indeed, imperfect, but this does not warrant us in looking at it with belittling eyes.

Hope, then, is the only fit mood for a man. Expectancy should be the breath of his nostrils. We have a right to expect greater things in the realm of the physical—greater inventions, greater discoveries, greater conquests over nature, greater coronations of man's genius and prowess. The nineteenth century was wonderful, the twentieth will be more wonderful, and the twenty-first will be the most wonderful of all.

We are warranted in expecting greater things for the nations. It is incredible that their ugly moods and ignoble practices should go on forever. We are within the bounds of reason when we expect war to cease, and armed peace to be laid aside like a toy outgrown. If the heavens are singing of peace and good will, how absurd to suppose that the earth will always bristle with instruments of slaughter!

We have solid grounds for expecting great things for our country. Our obstacles can be surmounted, our foes can be conquered. Demons can be exorcised and wrongs can be redressed. Ignorance and selfishness are the cause of many woes, but both of these are curable. If we can break the scepter of the dynasty of fevers which have for centuries lorded it over the region now traversed by the Panama Canal, why doubt that wide zones of American life, now polluted, can be made sweet and clean by workers baptized into a spirit more potent than the toxins of evil days?

And shall we not expect greater things for ourselves? No one of us is doing his best. Who dares claim that he is all he might be? Life is full of fresh opportunities, and hidden forces, and glad surprises. It is the unexpected that is always coming to pass. No one knows what a day may bring forth, and therefore the way is always open for a brave heart to expect the advent of something better. "Now are we the sons of God, and it doth not yet appear what we shall be" either in this world or in the next. "He that spared not his own son, but delivered him up for us all, how shall he not with him also freely give us all things?"

Jesus left the earth, saying, "I will come again." It was his wish that all the generations should live their life and do their work in the spirit of servants waiting for their Lord. He has come, he is coming, he is to come. He comes ever in more intimate and revealing ways and with increasing measures of his grace to hearts made ready to receive him.



This well-equipped station (Utah College of Agriculture) has developed strains of chickens that lay heavily until three and four years old





## Housewife's Club

### Giving a Book

By Monica Kelly

I HAVE never known anyone for whom there was not some book printed which would be welcome. There are plenty of people who do not care much for stories, or who dislike poetry, or who find reading hard work. But books are written about every subject under the sun. There are books with pictures, books without pictures, books with large print, and books with small print, and among them all there is bound to be one which will fit the particular person I am trying to please.

My ten-year-old nephew was a hard problem. His mother said he simply would not read beyond just what he had to in school. His brothers and sisters had reveled in fairy tales—Andersen's, Grimm's, the Arabian Nights, all the unsurpassed old collections. He showed no interest whatever in them. "Tom Sawyer" was the book that reached his heart, and the endeavor to find another as entrancing is making a reader of him to-day.

His cousin, sixteen, read newspapers and magazines voraciously, but only under dire threats did he complete the volumes of Scott and Dickens and Thackeray required in his high-school English course. He found a copy of Bernard Shaw's "John Bull's Other Island" which his father was reading, and which was regarded as much beyond the son, and his interest in that gave his mother a clue to the kind of reading he craved. She talked to the teacher, and as a result many modern books were added to the previous list of classics, including the best late novels and books on the war and current problems. This Christmas I am sending him "Over the Top." His older brother, a scholarly chap who hears all he wants to about war in the camp in which he is training, I know will like the anthology of magazine verse which I am sending him.

To a young girl who has the ambition to make her own clothes, I am giving a book on dressmaking, and to her brother a book on baseball. In giving fiction to my friends, I study their tastes and try to meet them. All that I ask is that a book refresh and stimulate the person to whom I give it. Simply because I enjoy an author's work does not mean that I am going to force it on the shelves of all my friends.

Some people like to receive nothing but current fiction, poetry, and history among their Christmas books. Others like nothing better than to collect beautiful volumes of the old writers. Families who live far from libraries especially appreciate any addition to their library of classics.

### Simplicity in Furnishings

By Jane Macpherson

QUESTIONS of color and decoration continually confront the housewife and require care in answering in order that the home may be a harmonious whole. A knowledge of the principles of simplicity, neatness, and sincerity as applied to house furnishings is necessary.

Many persons have the idea that it costs a great deal to furnish a home tastefully, but this is not true. A few simple furnishings, moderate in price, that go well together are in better taste than a profusion of costly articles that are unrelated. Having only a few necessary pieces of furniture in a room help to give an air of spaciousness. This is a valuable principle to follow in furnishing the small house.

The floors should be finished in neutral tones

in order to form a background for the furnishings and also for the persons who will occupy the room.

It is better when beginning to buy furniture to get only two or three chairs of a set having good lines, paying as much as one can afford, than to get a whole set having showy carvings or upholstery. It has been aptly said that "quality is remembered when price is forgotten."

Furnishings of a modest home should show no distinct style, and only a few pieces should be purchased at a time. The neatness and fitness of these should be considered. One should not mix styles in furniture.

A chair of the period of Louis XV is out of place among colonial furniture. Having pieces of several styles has a tendency to give the impression of a museum and to violate the air of homelikeness so necessary to the peace and happiness of the dwellers.

When one already has some of the heavy mission pieces, it is well to use with them a few articles of wicker in the natural finish. Wicker is easy, comfortable, light, and may be found with good lines.

### Bake or Steam Vegetables

BAKING or steaming is a more economical method of cooking vegetables than the ordinary boiling method. Experiments have shown the relatively small losses from steaming and great losses from boiling vegetables. Many root vegetables may be cooked in the jacket to preserve their nutrients.

The importance of using the minerals contained in vegetables cannot be overestimated, and all farm wives who value the health and wealth of their families should employ the method of cooking vegetables that insures against loss of any kind.

The ordinary method of preparing Irish potatoes and allowing them to soak in water before cooking results in a great loss in their nutritive value.

Such vegetables as peas, cabbage, spinach, and carrots usually are boiled and the juices poured off. Many vegetables when served are consequently almost without nourishment. The soluble carbohydrates, calcium, and phosphorus necessary to build up certain tissues of the body are wasted.

### Stretching Stocking Service

EVERY family collects a good many stockings the legs of which are good while the feet are worn. Here are some good uses for them:

Take the least desirable ones, cut open, and stitch together on the machine to form a good-sized dust cloth. Add a tablespoonful of kerosene to a quart of hot water. Dip the dust-cloths made into this. Do not wring. Hang on the line to dry and you will have excellent chemical dusters which can be washed and renewed at your pleasure. Take a pair of thin perfectly good lisle or silk stocking legs, cut off the feet, hem them at the ankles, and baste into the arm holes of the black dress having chiffon sleeves, making it possible to wear this with safety on a cold day.

Colored stocking legs will do for colored chiffon sleeves. These "liners" may be ripped out in a moment. They cling to the arm and are very satisfactory.

Take some of the good stocking legs, fold, dampen, and press with an iron. Lay a new pair of stocking feet on the legs and cut out a couple of pairs of feet which can easily be used to refoot worn stockings. It is not at all difficult to make over stockings of good quality for children.

Use worn stockings for kitchen holders. They are soft and easily washed.

### Christmas Goodies

By Edith C. Armbruster

INSTEAD of allowing the children to partake of plum pudding, mince pie, and fruit cake, prepare for them some of the following simple dainties, which are planned especially to please the little ones. For filling the Christmas stockings or for serving at the Christmas party they are novel and appropriate:

**CHRISTMAS TREES**—From any plain cooky dough, cut with a sharp knife little Christmas trees, and dot them with tiny round red candies to represent lights. The following is a practical and delicious recipe for the cookies: Two eggs, one cupful of brown sugar, one cupful of white sugar, one cupful of sour milk, one teaspoonful of soda, one teaspoonful of baking powder, a pinch of salt, one-half teaspoonful of cinnamon, and flour enough to make a soft dough.

**SNOW BALLS**—Cut angel food or any plain white cake in little rounds; dip each one first in boiled icing and then in shredded cocoanut.

**CHOCOLATE ANIMALS**—Prepare a chocolate frosting and into this dip animal crackers until they are entirely coated with the icing. They may be used in various ways. They are very effective arranged around a birthday cake or to form a procession around the table. They may be made to stand upright by fastening them with a few drops of icing to wafers or by putting two together with the frosting. They may also be dipped in various colored icings, such as strawberry, maple, or plain white icing.

**MARSHMALLOW MARGUERITES**—Cover long thin water wafers with quartered marshmallows and chopped nuts and toast in a quick oven. Serve hot.

**WISHING CAKES**—These are ideal for children's parties. Bake as many little cup cakes as there are to be guests. Ice them with a white frosting, and with tiny red candies fashion on each one the name or initials of one of the little guests. In the center place a tiny red candle. When the candles are lighted the children all make a wish, the one whose candle burns longest being sure of success; or a prize may be awarded instead of having the children wish.

**CHOCOLATE DATES**—Remove the seeds from fresh, clean dates; stuff some of them with pieces of marshmallow, others with seeded raisins, candied cherries, or walnuts. Melt sweet chocolate and into this dip the prepared dates.

**FESTIVITY CRACKERS**—Put graham crackers together with marshmallow frosting, chocolate icing, or any desired filling. They are easily prepared, much relished by the children, and are more wholesome than cake.

**FRUIT BLOCKS**—Put through a food chopper one-half pound of stoned dates, one-fourth pound of candied cherries, one-half pound of seeded raisins, one-half pound of figs, and one cupful of walnut meats. Turn out on a board, knead well with confectioner's sugar until it can be rolled one inch thick. Cut into blocks.

**HAND COOKIES**—Each child's hand should be scrubbed until thoroughly clean, then laid out, with fingers well apart, on a sheet of well-floured cooky dough and used as a pattern to cut out half a dozen cookies. When the cookies are baked, rings of yellow frosting may be put on some of the fingers with tiny vari-colored candies for settings.

**BONBON WAFERS**—Place a number of thin round crackers on a pan, and in the center of each place a chocolate drop. Put in a moderate oven until the candy is melted and the wafer crisp.

**BROWNIE CAKES**—Bake any simple cake mixture in little round pans. Mark in the features with chocolate and white icings, using contrasting colors. Arrange around each one a frill of colored crepe paper. They look like little bonneted faces.



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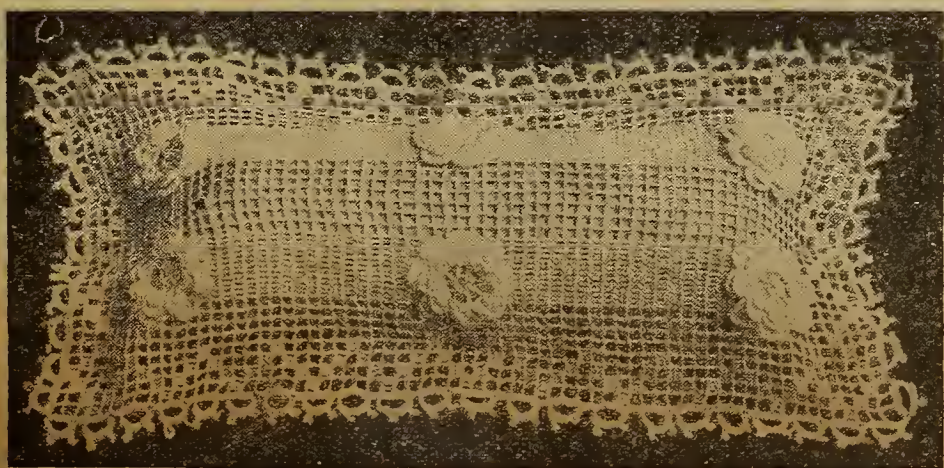
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# The High Cost of Giving

## A Christmas Story of a Sagebrush Celebration for Two

By ESTHER HALL DIXON

ELEANOR rocked slowly and squeakily in the farmhouse living-room—not the “white house with green shutters and red barn” farmhouse of the Eastern States, but a two-room shack on a southern Idaho irrigation tract. Suddenly, with a sigh that pronounced itself the period to a long reverie, she rose and walked to a chest at one end of the room.

She lifted the cover, and as she did so a letter slipped to the floor, released from an accidental hiding place. It was sealed and addressed but not stamped.

“Now, how in the world—!” exclaimed Eleanor picking up the letter, and, after examining it: “My first letter to Eva, and I had to write another.”

She tore open the letter and became immediately engrossed by the lines from her own pen, written six months before to her dearest girl friend back in Chicago, her own former home. It was like meeting a ghost of herself to come face to face with her thoughts of six months ago set down in black and white.

“John built our little home himself,” she read. “And what do you suppose I have in the kitchen? A sink!” Just where it ought to be, I suppose you’ll say, but I want you to know that I’m the first woman on this tract to have a sink.

“Our home has just two rooms. The combination living-room and bedroom is 16 by 16, and the dining-room and kitchen is 9 by 16. John stained the living-room woodwork in brown mission, to match the furniture we bought. We have one large window in the front, where we get a beautiful view of the mountains in the distance, and the rest of the windows are the small-cottage style. I have curtained them in scrim. Our rug is tan and the walls are covered with burlap. Our bed pulls up to the wall in daytime and does service as a mantel. So you see, Eva, when we get our pictures hung it will be very homelike.”

Eleanor looked around. The pictures were hung. It was homelike.

“There isn’t much room for argument in my little kitchen,” she continued in the letter, “but there are advantages in being able to stand in the middle of the floor and reach everything you want.”

And then came the details in arrangement of the kitchen, told with such accuracy that Eva might have entered in the night and have put her hand on any pot or kettle.

While this was a truthful description of her new home, there was something which Eleanor had not told about her arrival in the little town of Stanton, and that was of the big lump that had come into her throat when the train began to slow down for the station and her eyes could see nothing but miles and miles of sagebrush from the car window. Timidly she had touched John’s coat-sleeve and strained back the tears as she had asked:

“Why, John, why—where is Stanton? Where is the town, John?”

And how sweet and patient and jolly he had looked when he had bent down to say:

“Cheer up, dearie. There’s a cow standing in front of it.”

And then they had both laughed and the day had been saved. John was always saving the day. Eleanor was the only woman on the tract who had a sink. Christmas was but ten days away. She had exactly sixty-three cents with which to get a present for John—her John! So the thoughts jangled about in her head.

She returned to the letter.

“I really haven’t had time to get homesick and I think I’ll keep so busy that I never shall have the time. . . . I know that you and all our friends are still wondering why we came out here. John came in March to prepare the way when you thought it was a business trip. For months there had been a heavy black cloud over our little apartment by the lake. It seems to me like a nightmare now—those terrible days when John had to stagger home from work in semi-blindness. And then came the verdict of the specialist—unless John could break entirely away from the office, abandon his law, and live out of doors he would be blind in a few months.”

IN SPITE of her cheerful resolve not to be homesick, and in spite of the work which had kept Eleanor’s fingers constantly busy, there had been days when her heart was so heavy that it seemed by virtue of its very preponderance to drag her mind, willy-nilly, back to the little home they had left. And never had this feeling seemed harder to conquer than in these days just before Christmas. She missed the bustle and hum, the shopping hordes, the gayly trimmed store windows and red Santas on the street corners, the parcel-laden delivery wagons—all of which bespoke for weeks beforehand, in the city, of preparations for the holiday season.

Out here—well, even the great thrill of empire-building had not yet had time to overcome her love for the old order. Chores went on, chickens were tended, cows milked, horses led to water, fences patched. Where were any

hints of thrills to come? Any sweet mystery of anticipated joys?

Back home there would have been a big dinner on Christmas eve, with guests and gifts and good things to eat, and John would have worn his dress suit and she would have worn her wedding dress, which was her only party gown and bespoke the most extravagant gayety. Why not have the dinner anyway? It would be minus the guests perhaps, but she could cook a good dinner and John had his dress suit and she her wedding gown.

ONCE more she lifted the lid of the chest, and this time she took from it a soft, shapeless package that rustled strangely amid the severity of Mission furniture. She loosened a few pins, and the tissue paper wrappings fell away, releasing a cloud of white satin that billowed from her hand to the floor like a foamy meringue and lay silently glistening with a soft dull splendor as she held it up at arm’s length, her bosom heaving with unexpected emotion at the sight.

Her wedding gown! As she gazed, faces rose in tiers before her, glad, tender faces with shining eyes and smiling lips—her friends as she had looked upon them when she had turned from the altar by John’s side a year ago. She remembered how her slipped feet had scarcely seemed to touch the rose-strewn aisle, and she felt as if she were again floating to the majestic tones of the organ recessional, her hand enveloped in the curve of John’s proudly extended arm. A queer noise brought her to the present with a start. It was the teakettle boiling over!

There seems to be a teakettle in the life of everyone. As she walked to the stove to set the kettle back her hands were unloosing the fastenings of her gingham house dress, but in a moment a new thought assailed her. Suppose—suppose she had changed too much!

The absurdity of the thought was lost upon her, and she sprang in real anxiety to the narrow mirror that hung over her sewing machine, and stood staring into her own reflection with tense interest.

Except for the lines which fatigue had deepened around her mouth, there was nothing especially the matter with what she saw. Her hair still waved. It was nice hair, red-brown with gold glints in it. Her forehead wasn’t intellectual. It was too low for soaring intellect, but it was broad and smooth. No fault was to be found with the brown eyes, and the nose was unobjectionable except for the faint, hardly visible glints of a few freckles which last summer’s sun had whipped into being. Reassured that she would be spared the pain of seeing an old work-worn face above her beloved gown, she caught up the wedding dress and with a few deft motions slipped it over

her head. Then she became absorbed before the narrow mirror in an endeavor to get an accurate reflection of herself *in toto* by presenting a rapid succession of longitudinal strips.

Suddenly the door behind her burst open. She wheeled, and confronted the pop-eyed countenance of Mrs. Valentine, wife of the chief construction engineer for the big irrigation project of which John and Eleanor owned eighty acres. Mrs. Valentine’s love of finery was attested by one glance at her purple broad-clothed person. She was very short and very fat—one of those women who change when they reach thirty, become good, simple, and fat, and then do not change any more at all.

“Oh!” she gasped at Eleanor.

“Oh!” Eleanor returned in startled echo.

Then she recovered enough to add explainingly:

“My wedding dress.”

“Lovely, perfectly lovely, my dear!” gushed Mrs. Valentine, advancing to touch appreciatively with a pudgy forefinger the delicate tracery of lilies of the valley embroidered in pearls upon the bodice, the work of Eleanor’s own fingers.

“I wonder— No, I shouldn’t dare ask it,” she declared with a ponderous sigh. “Clothes are such a problem out here. You wouldn’t, I suppose—” Once more she stopped.

ELEANOR stared inquiringly. What favor could the chief’s wife possibly wish of her? Mrs. Valentine was like a roly-poly kitten whom you hated to deny things.

“What is it?” Eleanor asked encouragingly.

“I really oughtn’t to ask it. The Inaugural Ball is to be on January fourth. We have received an invitation, and Jim has to be in Boise that very week. It seems too good a chance to lose, but I haven’t anything to wear—not *anything*! You wouldn’t sell—” she fingered the bugled sleeve suggestively. Eleanor drew back as if stung by the touch.

“Oh, I couldn’t, Mrs. Valentine. It’s my wedding dress. I made it every stitch myself and it’s the dearest thing I own.”

Mrs. Valentine turned away with a pouty look of defeat.

“Just as you feel about it. It’s a dream, and the style’s as good as when it was made. Hand embroidery is always good, and especially in pearls. The fullness about the waist could easily be adjusted to fit me. If you should change your mind, I’ll give you—fifty dollars for it.”

After Mrs. Valentine’s visit, Eleanor, as a vent to her feelings, plunged into a frenzy of house-cleaning. With an armful of garments to be shaken she went

out to the clothesline in the back yard. She was surprised to hear voices, and, shielding her eyes from the glare of a blanket of snow under the bright Idaho sun, she saw John in conversation with a stranger on horseback. As she flung the clothes over the line their conversation came clearly to her ears through the still frosty air.

“It’s first-class,” affirmed the stranger. “Gen-u-wine rawhide cantele, hand-stitched, brass cap, and this here’s California russet leather.”

Most of this was unintelligible to Eleanor, but not the answer to John’s question:

“How much do you want for it?”

“Fifty dollars,” was the answer.

Once more in the house Eleanor went to the telephone. Rural service in this new country was slow.

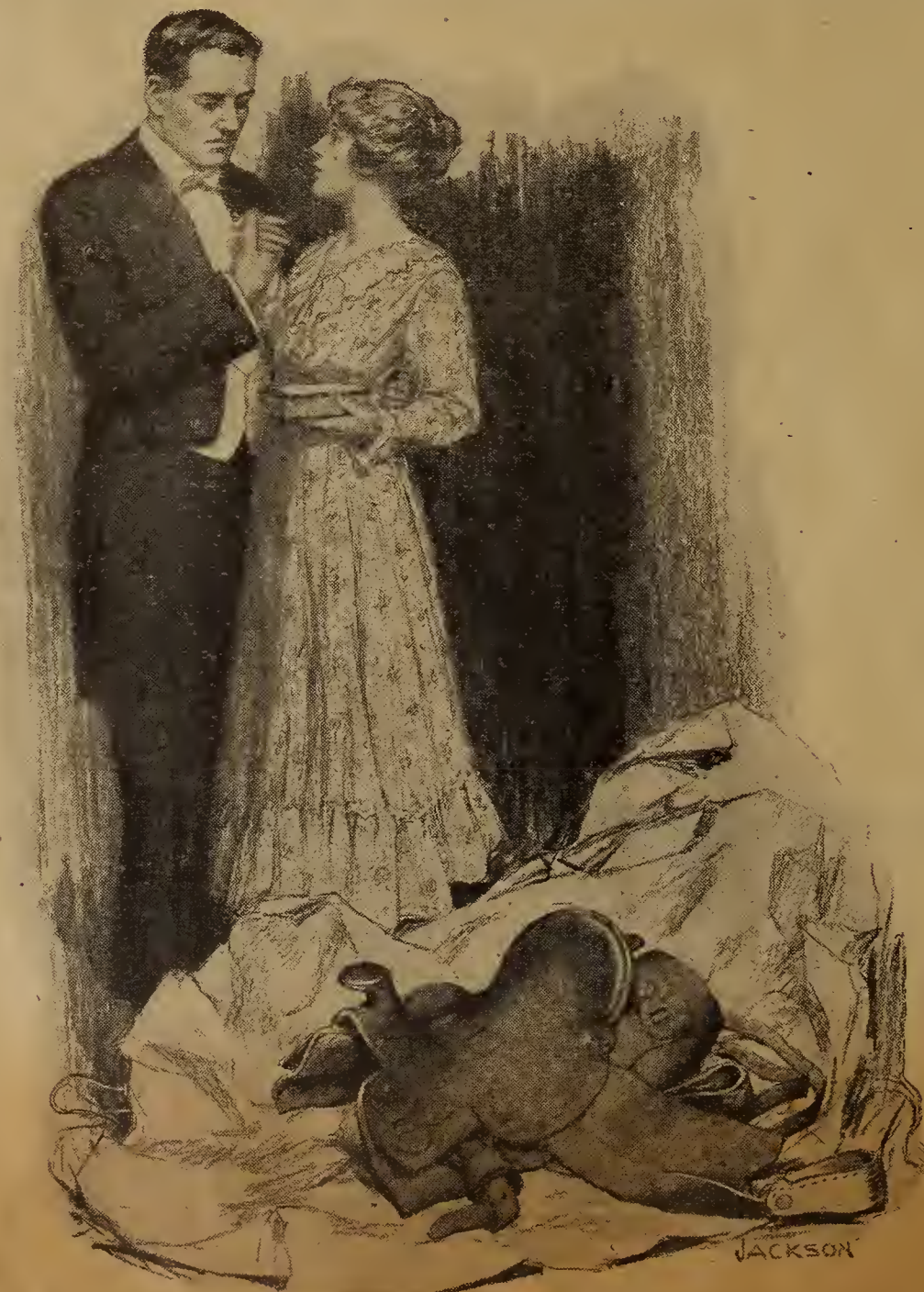
“Hello!” she called. “Hello, Operator, get me the company’s camp, please. I want to talk to Mrs. Valentine.”

As she rose from the telephone, Eleanor looked through the kitchen window just in time to see John leading Beppo out to be admired.

John, too, had a prized possession. It was a thoroughbred riding horse, the gift of a wealthy Kentucky uncle. It had been presented to John when he came West, the uncle’s idea of ranching being, apparently, to mount a blooded steed and ride over vast estates each day. John had not questioned his necessity for the beautiful creature, but had accepted him enthusiastically because his natural love of animals had been intensified by years of city life.

Beppo was never put to the heavy farm implements, never hitched at all, in fact. John could not ride him because he didn’t have a saddle. Once he had tried him bareback, but, being an inexperienced mount, he had not cared to repeat the trial. Beppo, therefore, was enjoyed only through the medium of caresses and grooming and display to visitors, as great an object of pride, no doubt, as Joseph’s coat or the Queen of Sheba’s jewels. In the long meantimes he pastured contentedly in the corral or champed impatiently in his stall.

Eleanor did not know it, but thoughts of Christmas had also come to John. Driving home from town one evening he had wondered about it. He needed a sweater coat and a pair of heavy mountain boots, he thought, and then a feeling of shame swept over him. Eleanor [CONTINUED ON PAGE 17]



“Dearie,” he whispered, “I’m going to put my Christmas present away for a while. It’s—it’s too nice to use right away”

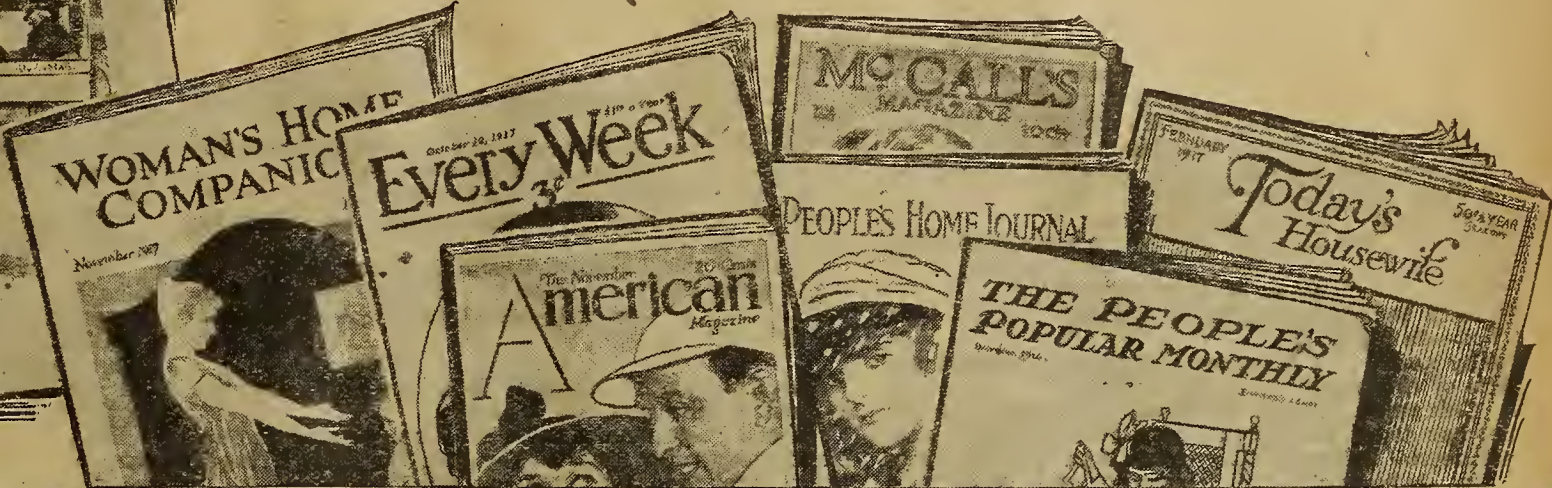


# UNTIL JANUARY 1st

**WE** WILL fill your order for magazine combinations at prices listed below. After that date the price for a number of our best clubs will have to go up. Several magazines have announced increased subscription rates effective with the beginning of the new year. Therefore you should **ACT NOW**. Get your order in before the increased rates go into effect.

## Our "Good-Will Gift" Will Be Included

To each person who sends us an order for a magazine club before January 1st, we will send our *Beautiful 1918 Calendar* as a gift. Use the special order form below. *Send it NOW, before you forget.*



### Make Up Your Own Clubs

The list below enables you to make up your own clubs. The figures to the right give the regular price of each publication for one year and the second column the price with a TWO-YEAR subscription to FARM AND FIRESIDE.

#### Clubs with Popular Magazines

CLUBBING NUMBER	Regular Price	With F. & F. Two Years
25 American Boy	\$1.50	\$1.65
18 American Motherhood	1.00	1.35
30 American Magazine	1.50	1.75
25 Baseball Magazine	1.50	1.65
17 Boys' Magazine	1.00	1.15
25 Breezy Stories	1.50	1.65
70 Century	4.00	4.10
35 Christian Herald	2.00	2.10
50 Collier's (The National Weekly)	2.50	2.60
25 Delicater	1.50	1.75
17 Designer	1.00	1.25
27 Etude (For music lovers)	1.50	1.65
15 Every Week (52 issues)	1.00	1.15
35 Field and Stream	2.00	2.25
25 Ladies' World	1.50	1.60
17 LaPollette's Magazine	1.00	1.10
20 Little Folks	1.00	1.40
12 McCall's Magazine	.75	.90
25 McClure's Magazine	1.50	1.60
40 Metropolitan	2.00	2.15
22 Modern Priscilla	1.25	1.35
23 Mother's Magazine	1.50	1.60
18 National Sportsman	1.00	1.25
Needlecraft	.35	.85
18 Pathfinder (Weekly)	1.00	1.30
12 People's Home Journal	.75	.90
8 People's Popular Monthly	.50	.75
30 Popular Science Monthly	1.50	2.00
15 Southern Woman's Magazine	1.00	1.15
18 Table Talk (Food Magazine)	1.00	1.35
25 Ten Story Book	1.50	1.60
12 To-day's Housewife	.75	.90
30 Woman's Home Companion	1.50	1.75
7 Woman's Home Weekly	.50	.75
13 Woman's Magazine	.75	1.15
7 Woman's World	.50	.75
40 Youth's Companion	2.00	2.10

#### WEEKLY, SEMI-WEEKLY, ETC.

8 Atlanta Semi-Weekly Journal	\$0.75	\$1.00
7 Capper's Weekly	.50	.75
4 Kansas City Star (Weekly)	.25	.65
37 Saturday Globe (Weekly)	2.00	2.15
9 St. Louis Globe Democrat (Weekly)	.50	.85
7 Toledo Weekly Blade	.50	.65
17 Tri-Weekly (N. Y.) World	1.00	1.10

#### AGRICULTURAL, POULTRY, ETC.

7 American Poultry Advocate	\$0.50	\$0.75
30 Breeder's Gazette	1.50	1.75
5 Farmer's Wife	.35	.75
7 Fruit Belt	.50	.85
18 Gleanings in Bee Culture	1.00	1.35
7 Green's American Fruit Grower	.50	.75
16 Hoard's Dairyman	1.00	1.25
15 Kimball's Dairy Farmer	1.00	1.15
7 Poultry Keeper	.50	.75
7 Poultry Success	.50	.75
7 Reliable Poultry Journal	.50	.75

### How to Make Up a Club

From the list above, select a combination which gives you one of the publications you desire in combination with FARM AND FIRESIDE. Mark down the price. Next pick out such other publications as you want and add the "Clubbing Numbers" together. Multiply the sum of the clubbing numbers by 5 and add the total to the price of the first combination you selected. Note the following example.

**Selected from list**  
 McCall's Magazine 1 yr. } Price.....\$0.90  
 Farm and Fireside 2 yrs. }  
**Additional Magazines desired**  
 Every Week, Clubbing No. ....15  
 Designer, Clubbing No. ....17  
 Sum of clubbing Nos. ....32 x 5 = 1.60  
 Correct amount to remit.....\$2.50  
 Where no clubbing number is given, add the publication at regular price.

**Remember** Each Combination Contains FARM AND FIRESIDE for Two Years

### All These Offers Include FARM AND FIRESIDE for TWO Years—With Other Publications One Year

People's Popular Monthly (1 yr.) \$0.50 Home Life (1 yr.) ..... .35 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.35</b>	<b>Our Price</b> <b>90c</b> You Save 45c	Capper's Weekly (1 yr.) .....\$0.50 Farmer's Wife (1 yr.) ..... .35 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.35</b>	<b>Our Price</b> <b>90c</b> You Save 45c
People's Popular Monthly (1 yr.) \$0.50 Farmer's Wife (1 yr.) ..... .25 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.35</b>	<b>Our Price</b> <b>90c</b> You Save 45c	Woman's World (1 yr.) .....\$0.50 Home Life (1 yr.) ..... .35 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.35</b>	<b>Our Price</b> <b>90c</b> You Save 45c
McCall's Magazine (1 yr.) .....\$0.75 People's Popular Monthly (1 yr.) .50 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.75</b>	<b>Our Price</b> <b>\$1.10</b> You Save 65c	McCall's Magazine (1 yr.) .....\$0.75 Home Life (1 yr.) ..... .35 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.60</b>	<b>Our Price</b> <b>\$1.10</b> You Save 50c
To-day's Housewife (1 yr.) .....\$0.75 People's Popular Monthly (1 yr.) .50 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.75</b>	<b>Our Price</b> <b>\$1.10</b> You Save 65c	People's Home Journal (1 yr.) ..\$0.75 Woman's World (1 yr.) ..... .50 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.75</b>	<b>Our Price</b> <b>\$1.10</b> You Save 65c
Woman's World (1 yr.) .....\$0.50 To-day's Housewife (1 yr.) ..... .75 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$1.75</b>	<b>Our Price</b> <b>\$1.10</b> You Save 65c	Kimball's Dairy Farmer (1 yr.) ..\$1.00 Green's American Fruit Grower (1 yr.) ..... .50 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$2.00</b>	<b>Our Price</b> <b>\$1.25</b> You Save 75c
Green's American Fruit Grower (1 yr.) .....\$0.50 Boys' Magazine (1 yr.) ..... 1.00 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$2.00</b>	<b>Our Price</b> <b>\$1.25</b> You Save 75c	Hoard's Dairyman (1 yr.) .....\$1.00 American Poultry Advocate (1 yr.) ..... .50 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$2.00</b>	<b>Our Price</b> <b>\$1.40</b> You Save 60c
Woman's Home Companion (1 yr.) \$1.50 Every Week (1 yr. 52 issues) .... 1.00 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$3.00</b>	<b>Our Price</b> <b>\$2.50</b> You Save 50c	American Magazine (1 yr.) .....\$1.50 Every Week (1 yr. 52 issues) .... 1.00 Farm and Fireside (2 yrs.) ..... .50 <b>At Regular Rates .....\$3.00</b>	<b>Our Price</b> <b>\$2.50</b> You Save 50c

### Send Your Order Before January 1st—Use This Order Form

CLIP ALONG THE DOTTED LINE

### Christmas Magazine Club Order Form

FARM AND FIRESIDE, Springfield, Ohio

F.F.-128

I enclose \$..... to pay for FARM AND FIRESIDE Two years and magazines I name below one year each. If my order reaches you on or before January 1st, 1918, I am to receive as a "Good-Will Gift" your 1918 Pretty Girl Calendar.

My Name .....

Post Office .....

St. or R. D. .... State.....

The magazines I want in addition to FARM AND FIRESIDE are:

- .....
- .....
- .....
- .....

Be Sure to Have Your Order Reach Us by January 1st





*A girl comes upon her true kingdom, but with her hand on the gate she learns she dare not enter*

# Runaway Julietta

## She Comes to a Hard Reckoning and Faces It Squarely

By ARTHUR HENRY GOODEN

PART VI

THE Thorpe ranch was not as Julietta remembered it. The old frame house was gone, and in its place was a sandstone building erected around three sides of a patio, nestling in a group of tall eucalypti that were ever green. And now, coming upon it, lanced through the trees by the soft moonlight, Julietta exclaimed in surprise:

"You said you'd built a new house, but why on earth didn't you tell me more?"

"You like it?" he queried, smiling.

"Like it? It's a dream place! Wherever did you get the idea?"

"From a ranch I saw in Mexico."

Julietta turned upon him amazedly.

"You—in Mexico?"

"Why not?" He laughed. "Can't a ranchman see a little of the world? But here's Tom."

A Chinaman opened to them, and Clay led the somewhat dazed girl up the steps and into the house. The Celestial informed Clay that his aunt had gone to bed, so, ordering some lemonade and seed cake brought to them, the young rancher led Julietta to what he called his "office."

It was an office in reality, she saw with fresh surprise—a severe room, lined with books, many of these being law books. In the center of the room was a large flat-topped desk with a typewriter beside it.

"You're not—not a lawyer?" she asked. "Why didn't you tell me—"

"No, I'm not; but I'm to be examined next month for the bar. Here, sit down!" He placed her in a chair near the desk and, sitting down by the typewriter, slipped a sheet of paper into the machine and set to work.

Julietta watched in idle, strange contentment. She liked this place—Clay's home. Home! As though through a window of colored glass she mistily perceived things new to her, things that had never appeared previously to what was deepest within her.

The harsh, elbowing world of business—that was not woman's kingdom of the spirit. In the newer realm, or newer as Julietta saw it, there was a deeper "business," a higher and more ennobling field of action. She thought vaguely, shyly, of children, and thrilled even as she dismissed the thought. The woman, she reflected, was the home-maker; the true sphere of a woman was *strictly business*, which was not saying at all that women could not strike pay dirt in the field of man's business—

"A penny for your thoughts!"

Julietta glanced up to find Clay's merry dark eyes peering at her above the machine.

"Oh, just thinking! Why are you studying law, Clay?"

"Oh, just to know the law!" he mimicked her tone.

"Well, why?"

"I'm a bit interested in good government."

She nodded gravely.

"I'm glad you didn't say 'politics'."

"I'd hate to have you a politician."

"Then—you care about what I do or am?"

His eyes were suddenly widened, tensed upon her, but she was on guard.

"Of course. Why not?"

The clicking recommenced. Julietta surveyed the littered desk. She noted the great inkwell formed of a steer's horn mounted in silver, the polished Mexican dagger, the documents, a file of blank deeds—

FOR a moment her eyes dwelt upon the file of deeds, slowly dilating as the idea seized upon her with growing force. As the typewriter fell silent she turned impatiently, that idea now excluding all else.

"How's this?" Clay ran out the paper, and began to read while Julietta forced her attention to the words. She suggested a change here, another there; frowningly he found her suggestions good, and complied. As finished, that petition, if ever signed by Andrew Burt, would give everyone in the valley exactly what they wanted.

"Chances are he won't sign it," laughed Clay, putting in a fresh sheet of paper and falling to work on the job of copying the corrected petition. "But at least it will make clear what everyone wants, and who wants it."

Julietta leaned forward and took up one of the blank deeds. When at length he had completed his task she passed the form to him.

"I wish you'd make me out a deed," she said quietly.

His brows lifted in surprise.

"Think I can't do it? Well, don't gamble on my ignorance, young lady." He cleared his throat with assumed importance. "What are the metes and bounds?"

"The which?"

"The metes and bounds—the description of the property."

"Oh!"

Enlightened, Julietta took from her blouse a folded sheet of paper.

"Here's the description as I copied it from the records—the Wurrell ranch, *my* ranch."

His eyes met hers with sudden gravity.

"You're going to sue Wurrell—make him disgorge, then?"

"No and yes," returned Julietta thoughtfully. "I don't want the place myself. But it's *my* ranch—mine. Well, I'm going to deed it to Maggie Wurrell—and Maggie's baby."

CLAY'S mouth tightened for a moment. He was still thinking of the Wurrells.

"You'd better make them give up some of the accumulated profits for the baby also," he said. "They'll try to fight, and you'll have to smash 'em."

"No!" She held up a protesting hand. "Jim Wurrell is good at bottom—he'd be a lot different if it weren't for Auntie. She's good too, but she's crusted her spirit with selfishness, hardness, jealousy, and petty spite, and she's poisoned herself with spiteful

Auntie out from beneath—well, I think it will make things a lot different. So make out the deed, Clay."

He turned silently to the typewriter and obeyed. With a soft patter of feet the Chinaman entered the room, bearing refreshments which he placed on the desk. While Clay worked on the deed by slow degrees they ate and drank; then, the deed made out, he handed it to her. She surveyed it with a satisfied air.

"I'll have it recorded to-morrow," she said with cool finality.

They drove home slowly, and for the most part silently. At the darkened Wurrell ranch he helped her out to the veranda step.

"Good night," she said, extending her hand. "And thank you so much"—vainly she tried to adopt the old business tone—"for taking me into partnership on this water-right affair."

His hand tightened upon hers. She was never very sure how it happened, for neither of them said a word more, but somehow his face had come to hers, and—

She stood inside the door, alone, breathless, trembling, her lips afire. She touched them curiously—Had she kissed him, then? She reached out a steady hand to the table, thankful for the darkness that cloaked her in friendly secrecy.



His hand tightened upon hers. She was never very sure how it happened, for neither of them said a word more

intolerance. She just got started wrong, and it's grown and grown until the real woman is all covered up."

She leaned forward earnestly and unburdened her soul.

"I've been thinking a lot about it since coming back. If a woman like Auntie Wurrell gets her thoughts started wrong, they just run down-hill with her all the time. If I can force her back into her real self, if we can break the crust and bring the real

### The Way It Began

LIZZIE DARE ran away, bade good-by to Clay Thorpe, her one friend, changed her name to Julietta, boarded a train, and there was adopted by Paul Morrow, a great-hearted drummer. He educated her, she entered upon a business career, then Morrow was ruined by the leather trust, and Julietta taught school. She accidentally discovered an oil well, and at Morrow's wish leaves business for the life of a society girl. Suddenly homesick, she returned to the ranch home she had run away from. There she finds that her uncle Wurrell and Andy Burt, a banker, had cheated her of her heritage when she was an orphan baby. Burt has control of the water rights in the community, and is starving out the ranchers by refusing water for irrigation.

door this mornin', and Stebbins' milk driver told me there was one just like it fastened up on Andy Burt's bank in town."

Upon the paper was scrawled "Let the wicked beware, lest they burn!" in pencil. Mrs. Wurrell uttered a startled cry.

"It's that Jake Robbins! He's always sayin' them scripture things. If Andy Burt don't throw him in jail for it he ain't got the spine of a jellyfish. He'll be burnin' us out next."

"Now, Auntie, don't worry about anyone setting fire to this place," demurred Julietta, and turned to her uncle. "May I have the horse and buggy this morning, Uncle Jim? I want to get to town right away."

The Wurrells exchanged looks, then Jim moved to the door half sullenly to hitch up. No automobile was on this ranch, almost out of the whole valley.

Except for her promise to Maggie nothing could have haled Julietta to town on this morning, with the memory of that kiss hot on her lips. She shrank from the possible meeting with Clay Thorpe.

What kind of madness, she wondered as the horse jogged along the dusty road, had seized upon her last night? What kind of madness had impelled her, not only to allow, but to return that kiss? She sat stiffly in the jolting buggy, staring straight between the ears of the horse, her face changing from white to red.

Was it madness after all, or was it something else? She thought of Paul Morrow, [CONTINUED ON PAGE 19]







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